

GOVERNMENT OF INDIA

TARIFF COMMISSION

REPORT

ON

THE COMPREHENSIVE REVIEW OF THE CEMENT INDUSTRY AND REVISION OF FAIR EX-WORKS PRICES PAYABLE TO THE PRODUCERS

BOMBAY
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No. 1-10/74-Cem

GOVERNMENT OF INDIA

MINISTRY OF INDUSTRIAL DEVELOPMENT
(AUDYOGIK VIKAS MANTRALAYA)

New Delhi, the 1st August, 1974.

RESOLUTION

Cement Prices

In their letter No. 18(3)/TAR/72, dated the 28th April, 1972, the Government of India, being of the opinion that a comprehensive review of the cement industry was called for in view of the significant changes that had taken place since the industry was last studied by the Tariff Commission in 1961, requested the Commission to undertake such a study with a view to ensure the development of the cement industry in a measure and in a manner that would enable the requirements (including exports) to be met adequately at a minimum cost to the economy. The Government had also requested the Tariff Commission to make recommendations of an interim nature pending the submission of their final report. In March, 1973, the Commission made an interim report which was restricted to an assessment of the increase in cost to be provided for as immediate relief to the industry. The Commission recommended a uniform interim increase of Rs. 10 per tonne for all the units in production and it was accepted by the Government of India in their Resolution No. 1-23/73-Cem, dated the 15th September, 1973. The Commission on the conclusion of its enquiry has now submitted its final report.

2. The main recommendations of the Commission are as under :

1. There should be a uniform ex-works retention price for the existing units of the Industry which has been fixed at Rs. 131/- per tonne;

2. Units holding industrial licences/c.o. b. licences which are in the process of being set up and which are expected to come into production shortly, should be granted an ex-works retention price of Rs. 146/- per tonne. Expansions falling under this category may be granted a price of Rs. 141/- per tonne;

3. Units which are presently in the "Letter of Intent" stage and which are expected to come into production during the last couple of years of the Fifth Plan may be granted and ex-works price of Rs. 161 per tonne. Expansions falling under this category may be granted an ex-works price of Rs. 149 per tonne;

4. The grant of a special price as at present to M/s. Travancore Cements, Kottayam and Assam Cements Cherrapunji may be discontinued;

5. The ex-works price recommended should be in force for a period of about five years i.e. till 31st March, 1979;

6. It is not necessary to fix a differential price for portland blast furnace slag cement and portland pozzolanic cement based on the use of fly ash;

7. Units which are obliged to use furnace oil with the prior approval of the Government for want of adequate supplies of coal should be compensated for the additional expenditure involved in the use of furnace oil;

8. Out of the ex-works prices recommended by the Commission, the producers will be required to pay an amount of 50 paise per tonne into a separate "Research Account" to be at the disposal of the Central Government to be utilised by the Government for assisting the Cement Research Institute of India and such other Centrally organised research organisations, which in the opinion of the Government of India may be doing useful R & D work in the interest of the cement industry as a whole;

9. In areas where district towns are not connected by railway, freight pooling should cover road transport of cement to such district towns also;

10. Small plants set up in remote areas with difficult and comparatively inaccessible terrain may receive assistance from the freight pool to the extent of the difference between the all India average freight in the f.o.r. destination price and freight incurred on the transport of cement produced by such units to nearby areas;

11. Cost of transport of clinker, slag and fly ash to grinding/inter-grinding units and cost of transport of cement from the grinding units to onward destinations should also be brought within the perview of the freight pool, provided the movement is in the logical forward direction and approved by the Cement Controller;

12. The system of quarterly fixation of packing charges is working satisfactorily and no change therein is considered necessary;

13. Ex-works prices should be subject to automatic escalations for variation in major elements of costs viz. (i) wages and dearness allowance, (ii) price of coal, (iii) power tariff, and (iv) freight on coal and limestone;

14. Out of the ex-works price, the producers should pay an amount of Rs. 4/- per tonne (subject to tax), into a separate "Development and Rehabilitation Account" to be held jointly with the Government to be utilised for rehabilitation purposes;

15. A Cement Development Fund may be set up for grant of interest free loans on long term basis with a moratorium for repayment for setting up additional capacity. This fund may be created partly by a levy on the cement produced and partly by a matching

grant by Government. In case the setting up of such a fund is found to be unnecessary, it would merely suffice to add a further element to the price of Rs. 161 per tonne for new units to take care of the servicing charges on this additional investment.

3. Government have carefully considered these recommendations of the Tariff Commission in the context of the Fifth Five Year Plan. They are in general agreement with the approach of the Tariff Commission to create conditions to stimulate greter production which, in the ultimate analysis, will serve the interests of the consumers.

4. The prices recommended by the Commission include a provision towards minimum bonus as an element of cost. Government have not, however, accepted the view that minimum bonus should be provided for as an element of cost and have accordingly deducted Re. 1 per tonne from the price recommended by the Commission.

5. The prices recommended by the Commission include an allowance of Rs. 4/- per tonne towards Rehabilitation and Development. In the context of the present price situation prevailing in the country, Government do not consider it appropriate to increase the incidence on price to be paid by consumers of cement by including this allowance of Rs. 4/- per tonne towards Rehabilitation. Government have, therefore, decided to exclude this element of Rs. 4/- per tonne from the ex-works price recommended by the Tariff Commission.

6. Consequently, Government have decided to fix ex-works price of cement produced by all existing units at Rs. 131/- per tonne.

7. The above price of Rs. 131/- per tonne includes, as recommended by the Tariff Commission, an element of 50 paise per tonne which would be required to be deposited by each producer in a separate "Research Account" with the Central Government to be utilised by Government for assisting Cement Research Institute of India and such other centrally organised Research Organisations which may be

doing useful "Research and Development" work in the interest of cement industry as a whole. Separate instructions regarding the opening and operation of this "Research Account" are being issued.

8. The ex-works price of Rs. 131/- per tonne is exclusive of the selling expenses fixed by Government at Rs. 3/- per tonne including the present Selling Agency Commission of Rs. 1.25 per tonne.

9. This price will be in force till 31st March, 1979, subject to escalations on the first of July every year for variations on account of (i) wages and dearness allowance, (ii) price of coal, (iii) power tariff, (iv) freight on coal, as recommended by the Commission. The escalation in respect of wages and/or dearness allowance would be subject to the condition that the escalation formula would apply only when any general revision of wages and /or dearness allowance has the approval of the Government for the Cement Industry as a whole.

10. For bulk purchases made by Government Departments through Rate Contracts, a rebate of Rs. 10/- per tonne will be provided.

11. The resultant F.O.R. destination price of naked cement excluding packing charges and excise duty but providing for the aforementioned rebate on purchases by Government Departments through rate contracts, will be Rs. 186.75 per tonne.

12. The recommendations made by the Tariff Commission on ex-works prices to be given to (a) units holding Industrial Licences/C.O.B. licences which are in the process of being set up and expected to come into production shortly, and (b) units in the Letter of Intent stage or licensed which are not expected to come into production till the last two years of the Fifth Plan period, are under examination of Government and decisions thereon will be announced separately.

13. In pursuance of the above mentioned decisions and after taking into account the escalations in costs subsequent

to the submission of the Report by the Tariff Commission, the Cement Control Order, 1967 is being revised separately.

13. The basic principle underlying the concept of freight pooling is that cement should be made available in different parts of the country more evenly and more or less at a uniform price. At present, the freight is equalised only up to the nearest rail heads. The areas not adequately served by railways are, therefore, not getting the full benefit of freight pooling at present. Government have, therefore, decided to accept the suggestion of the Commission that the freight pooling should operate at least up to all the district headquarters in areas which are not served adequately by the railways. The cost of transport from the rail head to the district headquarters by road would be covered by the freight pool in accordance with the formula for road transport of cement as may be applicable from time to time.

15. Government agree with the Tariff Commission that in the interest of overall economy of the country and that of the consumer, the freight pooling system should be continued to ensure equal availability and uniform price of cement all over the country and that the position may be reviewed towards the close of the Fifth Plan period to see if any modifications are called for in the system.

16. The Tariff Commission has made a number of other ancillary recommendations. These have been noted. Appropriate action will be taken in respect of these separately in due course.

ORDER

ORDERED that a copy of this Resolution be communicated to all concerned and that it be published in the Gazette of India.

Sd/-

(D. K. SAXENA)

Joint Secretary to the Govt. of India

PERSONNEL OF THE COMMISSION

SHRI D. P. ANAND . . . . *Chairman*

SHRI PRAMOD SINGH . . . . *Member*

SHRI M. B. PALEKAR . . . . *Member*



SHRI S. S. SAXENA

Secretary

CONTENTS

PARAGRAPH		PAGE NO.
	CHAPTER I	
	INTRODUCTION	
1	Previous Inquiries	1
2	Reference to the Commission and scope of the Inquiry	1
3	Interim Report	2
4	Method of Inquiry	7
5	Rat[illegible]on prices payable in 1961 and the su[illegible]developments	10
	CHAPTER II	
	PRESENT STRUCTURE OF THE INDUSTRY	
6	Brie[illegible]f the Growth	20
7	Presen[illegible]ion	23
8	Capacity	26
9	Production	28
10	Capacity utilisation	29
	CHAPTER III	
	ECONOMIC SIZE, LICENSING POLICY AND EXPANSION	
11	Economic size of a cement plant	40
12	Licensing Policy	43
13	Expansion	46
	CHAPTER IV	
	EXPORTS	
14	Exports	50
	CHAPTER V	
	CONSUMPTION AND FUTURE ESTIMATES OF DEMAND	
15	Consumption	57

Paragraph		Page No.
16	Capacity utilisation during the Fifth Plan period	60
17	Estimates of Demand for the Fifth Plan period	65
	CHAPTER VI	
	Raw Materials	
18	Raw Materials	67
	CHAPTER VII	
	Supplementary Raw	
19	General	74
20	Blast Furnace Slag & Slag with A	74
21	Fly Ash and Portland Pozzo. (PC)	86
	CHAPTER VIII	
	Fuel, Power, Stores and Cement Machinery	
22	Coal	95
23	Furnace Oil	97
24	Power	101
25	Stores and Spares	102
26	Cement Manufacturing Machinery	103
	CHAPTER IX	
	Standards, Quality, Research & Development	
27	Standards	110
28	Quality and Quality Control	111
29	Research and Development (R & D)	113
	CHAPTER X	
	Transport, Regional Imbalance, Split Location and Freight Pooling	
30	Transport	116
31	Regional Imbalance	132
32	Split location.	139
33	Freight Pooling	145

PARAGRAPH		PAGE NO.
	CHAPTER XI	
	DISTRIBUTION SYSTEM AND FINAL SELLING PRICES OF CEMENT	
34	Distribution	154
35	Final selling prices of cement . . .	160
	CHAPTER XII	
	COST AND PRICE FIXATION	
36	Our approach to the problem of price fixation	163
37	Selection of units for costing and period selected for study of the costs of production . .	167
38	Cost of Production—Actuals . . .	168
39	Estimates of cost of production for the future and price period	177
40	Fair return to the industry . . .	186
41	Allowance for Rehabilitation . . .	189
42	Final Fair Ex-works Price to the Industry .	191
43	Selling expenses including Selling Agents' commission and Packing charges . .	192
44	Excalations	193
45	New units /Expansion of the existing units .	196
46	Units in the letter of Intent and Cement Development Fund	198
	CHAPTER XIII	
	SUMMARY OF THE CONCLUSIONS AND RECOMMENDATIONS	
47	Summary of conclusions and recommendations	204
	CHAPTER XIV	
	ACKNOWLEDGEMENTS	
48	Acknowledgements	225
TABLE	TABLES	
5.1	Units for whom special prices were granted in 1961	11
5.2	The retention prices (naked ex-works) payable to producers as per Commission's recommendations in 1961 Report and those fixed by Government	12

TABLE		PAGE No.
6.1	Units which came into production since last inquiry	21
6.2	Licensed capacity and number of units State-wise and zone-wise	22
7.1	Age pattern of the Units	24
7.2	Size of the Units	25
8.1	State-wise licensedtcapacity in ascending order	27
9.1	Production of cement during the years 1968 to 1972 and 1973 (Jan.—Sept.) . . .	28
10.1	Capacity Utilisation	29
10.2	Zone-State-wise capacity, production and capacity utilisation 1968 to 1973 (Jan.—Sept.).	30
10.3	Range of capacity utilisation . . .	35
10.4	Factors affecting Cement production (loss in production)	37
13.1	Comparison of capacity in 1973 and by 1978-79	46
13.2	Nature of licences issued	47
13.3	Future plans of the Cement Corporation .	48
14.1	Cement and clinker exports between 1968-69 and 1973-74 (April—December) . .	52
15.1	Zone-wise production and consumption of Cement during 1968 to 1972 & 1973 (Jan.—Sept.)	57
15.2	Comparison of the gaps between the estimated demand and estimated production and the corresponding gaps according to estimated demand and actual production in 1972,1973 and 1974	59
16.1	Utilisation of Production Capacity in selected countries	61
16.2	Overall capacity utilisation between 1954 and 1973	62
18.1	Zone-wise grouping of cement factories according to the number of sources of limestone .	70
18.2	Limestone sources zone-wise . . .	71
18.3	Railway freight rates for transport of limestone	71
20.1	Location of Steel and Cement factories and availability of slag by 1978-79 . .	77
20.2	Production of PBFS Cement . . .	80

TABLE		PAGE NO.
20.3	Additional capacity for the establishment of PBFS Cement as on 1-9-1973 . . .	83
21.1	Availability of dry fly ash from the thermal power stations for the production of PPC	88
21.2	Production of Pozzolana Cement . . .	89
22.1	Total requirements and despatches of Coal	95
22.2	Prices of non-coking coal before and after nationalisation	97
26.1	Annual capacity of the Cement Manufacturing Machinery Industry in terms of standard plants	104
30.1	Nature of Transport used for despatches . .	117
30.2	Wagons indented, received and loaded .	119
30.3	Target and actual movement of cement .	120
30.4	Average Zonal Freight	125
30.5	Consolidated inter-Regional and intra Regional despatches and freight 1973 (Jan.—Sept.) .	125
30.6	Average lead between 1969 and 1973 . .	127
30.7	Formula for reimbursement of Road freight .	131
31.1	Regional imbalance in demand, capacity and consumption in 1972	133
31.2	Regional imbalance in demand, capacity and production—Projected figures for 1973 .	133
31.3	Additional capacity licensed in various zones	136
34.1	Proportion of Reserved and Free Sale Categories in the despatches of cement . .	155
39.1	Estimates of Ex-works cost of Naked Cement	185

APPENDICES

APPENDIX		
1	Letter of Government reference to the Commission	226
2	Interim Report on the Revision of Fair Ex-works prices payable to Cement producers	229
3	List of parties to whom the Commission's questionnaires/letters were addressed and from whom replies/memoranda were received .	241
4	Units selected for cost investigation . .	256
5	List of factories visited by the Commission and its Officers	258

Appendix		Page No.
6	Names of persons who attended the Public Inquiry held on 8th, 9th, 10th 11th and 14th May, 1973	264
7	Programme of In-Camera Cost Discussions .	271
8	Changes in f.o.r. destination prices of cement from 1-1-1968 to 31-12-1973 . . .	272
9	General information about the cement manufacturing units in India. . . .	274
10	Size of the Cement factories in ascending order prepared on the basis of the licensed capacity given by the Ministry of Industrial Development (As on 1-9-1973) . . .	280
11	Unit-wise annual licensed capacity according to States and Zones (As on 1-9-1973) .	282
12	Capacity utilisation based on the licensed capacity and production of each of the units between 1968 and 1973 (Jan.—Sept.) as furnished by the Cement Controller . .	286
13	Existing capacity and the schemes sanctioned for expansion as on 1-9-1973, according to Ministry of Industrial Development .	300
14	Country-wise exports of Cement & Clinker during 1968-69 to 1972-73 as furnished by the S.T.C.	302
15	Classification of the Lime Stone sources according to certain range of distances from the Factories	304
16	Immediate possibility of use of Fly ash available in thermal power station by existing cement units	305
17	Recommendations of the Task Force for the promotion of fly ash cement as an alternative building material	307
18	Factory-wise/zone-wise despatches and freight incurred during January-September 1973.	308-309
19	Statement showing the break-up of retail sale price of cement as on 1-12-1972 . .	314
20	Statement showing the names of the costed units together with the year of establishment, latest accounting year costed and the names of the Cost Officers who examined the cost. .	317

APPENDIX		PAGE NO.
21	Statement showing the total cost of production of Cement including packing material and selling expenses for the year 1971/1971-72 (Statement A)	319
21	Cost of Limestone for the year ended 1971/ 1971-72 (Statement No. A1)	320-321
21	Cost of Production of Clinker for the year ended 1971/1971-72, (Statement No. A-2) .	322-323
21	Cost of Production of cement (ground) for the year ended 1971/1971-72 (Statement No. A-3).	324-325
21	Cost of Packing Cement for the year ended 1971/1971-72 (Statement No. A-4) . .	326-327
21	Selling and distribution expenses for the year ended 1971/1971-72 (Statement No. A-5) .	328-329
21	Element-wise cost of production of Cement Ground for the year ended 1971/1971-72 (Statement No. A-6)	330-331
22	Capacity and utilisation of capacity of the Costed Units for the year ended 1971/1971-72.	334
23	Names of the units for whom Industrial Licences or c.o.b. Licences were granted by Government as on 1-9-1973 . . .	336
24	Names of the units for whom letters of Intent were granted by Government as on 1-9-1973.	338

REPORT ON THE COMPREHENSIVE REVIEW OF THE CEMENT INDUSTRY AND REVISION OF FAIR EX-WORKS PRICES PAYABLE TO THE PRODUCERS

CHAPTER I

INTRODUCTION

1. Previous Inquiries

1.1. This is the fourth inquiry into the fair prices payable to cement producers undertaken by the Commission under Section 12(d) of the Tariff Commission Act, 1951.

1.2. During the period of the Second World War, the consumption of cement on Government account increased considerably and 90 per cent of the domestic production was required to be taken over for defence purposes. The exigencies of war thus necessitated the imposition of control over price and distribution of cement. In August, 1942, the Government of India passed an ordinance under the Defence of India Rules fixing the prices of cement for the first time on a "cost plus" basis. After the lapse of the Defence of India Rules in the year 1946, the Government of India continued to exercise control by fixing prices by executive orders. Such prices were fixed mainly on the basis of cost of production of the factories owned by the biggest single group, namely, A.C.C. Group of Cement Factories. This policy of fixing prices by executive orders continued till the end of 1952. Thereafter from 1st July, 1956 the prices and distribution of cement came under the provisions of the Cement Control Order promulgated in exercise of the powers conferred under Section 18(G) of the Industries (Development & Regulation) Act, 1951.

1.3. Since 1953 three inquiries were conducted by the Tariff Commission into the question of retention price payable to the cement producers. These inquiries were conducted in the years 1953, 1958 and 1961 respectively.

3—4 T. C. Bom./74

1.3.1. **First Inquiry (1953)**

1.3.1.1. In its Report submitted in the year 1953 the Commission recommended a basic price of Rs. 72 per ton f.o.r. destination for naked cement for all producers other than five high cost units for which an extra price was recommended. However, the Government fixed a standard ceiling price of Rs. 67 per ton and allowed some extra price to some of the high cost units.

1.3.1.2. *Emergency of the STC.*—From 1st July, 1956 the State Trading Corporation took over the distribution of cement under the provisions of the Cement Control Order, 1956. The prices payable to cement producers were fixed on ex-works basis for naked cement excluding selling commission. After adding to such ex-works price further elements such as selling commission, average freight, packing charges and excise duty, a uniform price of Rs. 102.50 per tonne was determined at which the S.T.C. was to sell the cement f.o.r. destination with effect from the date of take over. In order to arrive at such uniform price, freight element was averaged for the country as a whole and thus the system of freight pooling came to be introduced.

1.3.2. **Second Inquiry (1958)**

1.3.2.1. Subsequent to the fixation of price of cement in July, 1956 under the provisions of Cement Control Order, 1956, representations were received by the Government from cement producers to the effect that an increase in the price of cement had become necessary as a result of increase in the cost of production. The Government felt that a fresh examination of the cost of production in each of the then existing units to determine the fair prices payable to them was necessary. Accordingly, the second inquiry was entrusted to the Tariff Commission which was conducted by it in the year 1957-58. In its Report the Commission recommended fair ex-works price of naked cement ranging from Rs. 54.50 to Rs. 65.00 per ton for the various producers except Travancore Cements for whom a price of Rs. 80.50 per ton was recommended. These recommendations were accepted by the Government.

1.3.2.2. The ex-factory prices payable to cement producers were revised upwards by the Government with effect from 1-1-1960 to compensate them for the increase in their costs consequent on the implementation of the recommendations of the First Wage Board Award for the cement industry. The quantum of such increase for each unit was determined by the Government after verification of claims by the Cost Accounts Branch of the Ministry of Finance. On the introduction of the Metric System, the ex-works prices were converted to and expressed as per metric tonne with effect from 1st October, 1960.

1.3.3. **Third Inquiry (1961)**

1.3.3.1. Subsequently, the Government of India received a number of representations from the cement industry to the effect that its costs of production over a period had gone up consequent on increases in coal prices, rail freight, electricity, tariff etc., and the industry pleaded for a suitable upward revision in retention prices. Further some of the existing units had completed their expansion schemes and a few new units had commenced production. In view of these developments and also in view of the fact that the then existing price period was due to expire on 30th June, 1961, Government decided that a fresh examination of the cost of production of cement should be undertaken. Accordingy, the case was referred to the Commission for inquiry and report by the then Ministry of Commerce and Industry Resolution No. Cem-8-(5)/60, dated 20th October, 1960. In this Resolution the Commission was specifically asked to conduct a comprehensive review of the cement industry and to take into account all aspects of the industry such as production, prices, distribution, development etc. By subsequent letters dated 3rd and 19th April, 1961, the then Ministry of Commerce and Industry also requested the Commission to include the following two additional aspects in the scope of the inquiry:—

(i) prices payable to producers of slag cement; and

(ii) need for any change in the existing procedure for determining the packing charges for cement.

1.3.3.2. In its 1961 Report, the Commission recommended ten separate retention prices payable to various producers ranging between Rs. 67.50 and Rs. 79.50 per tonne, except in the case of Travancore Cements for whom the price recommended was Rs. 103.00 per tonne. Some additional recommendations relating to some units which went into production in 1961 were also made. The Commission also recommended that a separate price for slag cement need not be fixed as the production of this type of cement had not stabilised by then.

1.3.3.3. For the reasons stated in paragraph 5.1.1 the Government, however, by their Resolution No. Cem-8 (27)/61, dated 31st October, 1961 preferred to fix a uniform retention price of Rs. 69.50 per tonne with an additional Rs. 3.00, Rs. 5.50, and Rs. 25.50 for a few unis having appreciably higher costs. The Government also decided that these prices should be subject to such further adjustments as may be necessary on account of governmental actions including escalation of price for fuel and power.

1.3.4. Since our last inquiry in 1961 till April 1972 when the present inquiry was referred to us there were no less than five upward price revisions totalling Rs. 28.00 per tonne by the Government. The last price revision was in April 1969. In between there was a period of decontrol and recontrol also. Details of these developments are given in paragraphs 5.2. to 5.4.

2. Reference to the Commission and scope of the Inquiry.

2.1. Since the Commission's last detailed inquiry in the year 1961 there have been significant changes in the circumstances of the industry. Its capacity has considerably increased, new and modern plants have been set up and indigenous manufacture of cement machinery has been established, thereby reducing dependence on imported equipments. However, the expansion of the industry has not kept pace with the growth in demand for cement. Further, the growth of the industry from the point of view of regional supply and demand has also not been satisfactory and this has led to transport difficulties and increase in freight charges.

2.2. Since 1961 *ad hoc* increases have been allowed by the Government in the ex-works prices payable to cement producers, and these have risen to as much as Rs. 100 per tonne by 1972. Some of the increases have been allowed in the wake of increases in the prices of inputs, while others have been of an anticipatory nature. In the absence of a detailed inquiry, however, it is, not possible to say whether the increases sanctioned have conformed to the actual changes in the pattern of costs of the industry. While in some cases the incidence of increased costs might have been more than that actually allowed, in others the latter might have been excessive looking at the increased volume of production, the modernisation of plant and machinery and the scope for reduction in costs etc.

2.3. In view of these developments, Government came to the conclusion that a comprehensive review of the industry with a view "to ensure the development of the cement industry in a measure and in a manner that would enable the requirements (including exports) to be met adequately at a minimum cost to the economy" was called for.

2.4. Accordingly, the Government of India by the Ministry of Foreign Trade letter No. 18(3)/Tar/72 dated 28th April 1972 (Appendix 1), requested the Commission under Section 12(d) of the Tariff Commission Act, 1951 to undertake a comprehensive review of the industry and to recommend fair ex-works prices payable to the producers.

2.4.1. While undertaking this review the Government requested the Commission to take into account *inter alia* the following considerations:

"(a) the price structure is such as would encourage the growth of the industry and at the same time, as would exercise greater pressure towards efficiencies and economies in the cost of production;

(b) whether, given the regional imbalances between supply and demand, suitable incentives for the setting up of additional capacity in deficit or near deficit areas, or a suitable structure of prices, regional or otherwise, may be necessary; and

(c) the necessity for using supplementary raw materials like slag, and pozzolanic materials adequately and the measures as would lead to fuller utilisation of such materials."

2.4.2. Since the freight is an important element in cost, the Government also desired that "arrangements in regard to the present freight pooling may be reviewed carefully so as to minimise the burden of transport cost to the consumers and, in particular, to assist in reducing regional imbalances in the development of the industry. Since the freight cost also is a cost to the economy and to the consumer, the relevant consideration should be to minimise the total cost including the production cost and the freight cost. If necessary, having regard to the location of raw materials sources and centres of demand and the transport difficulties, the advantages of split location and the policy to be adopted in such cases may be examined".

2.5. The Government also indicated in their reference to us that "the Tariff Commission may also make recommendations of an interim nature pending the submission of its final report".

2.6. Subsequently, the Ministry of Industrial Development *vide* their letter No. 1-30/71-Cem, dated 14th July 1972 drew our attention to the point raised by the representatives of the labour unions at the Fifth Session of the Industrial Committee on Cement to the effect that the labour cost as a percentage of total cost of production was going down, whereas the proportion of salaries, allowances and other overhead charges had been going up, and requested the Commission to consider this aspect also while making the study of the cement industry.

3. Interim Report

3.1. Since present inquiry was intended to be a comprehensive review of the cement industry and its terms of reference were wide, it was expected that the submission of the final Report of the inquiry would take some time. Therefore, we thought it fit to submit an interim Report but restricted its

scope only to the assessment of increase in costs which would need to be provided for immediately. Accordingly, a quick appraisal of the situation was made with the help of the data collected from the units which were costed, discussions with the representatives of the industry and material obtained for them on the basis of such discussions. On the basis of such examination we submitted an interim Report on 24th March, 1973.

3.2. The scope of the interim Report was restricted to an assessment of the increase in costs to be provided for immediate relief to the industry. The main recommendations of the interim Report are set out below :

(i) An increase of Rs. 10.00 per tonne in the fair ex-works prices may be allowed by Government with immediate effect thereby raising the present controlled price of naked cement to Rs. 110.00 per tonne. This interim price is subject to suitable revision in the light of the final Report of the Commission.

(ii) All the three units, namely, Travancore Cements-Assam Cements and Shree Digvijay Cement in respect of which Government have under the Cement Control Order, 1967 fixed special prices, may be allowed in addition an increase of Rs 10.00 per tonne recommended for the industry by way of interim relief.

(iii) The present practice of the Government notifying quarterly packing charges may be continued.

3.3. A copy of the interim Report is at Appendix 2. The Government accepted our recommendations made in the above Report by their Resolution dated 15-9-1973, and amended the Cement Control Order, 1967 accordingly.

4. Method of Inquiry.

4.1 Information about cost and other problems of the industry was called for from the producers and prospective produce rsthrough our special quesionnaires issued to them. The Cement Manufacturers' Association (C.M.A.) was invited to substantiate its case by a detailed memorandum on

behalf of the industry. Information relating to the present position of the indusry in respect of capacity, production, additional capacity licensed for existing units, capacity licensed for new units etc., was sought from the Ministry of Industrial Development (Cement Section), Directorate General of Technical Development (D.G.T.D.) and C.M.A. Details about the varous aspects of control were called for from the Cement Controller. Various cement machinery manufacturers including their Association were requested to give information on matters such as the prices of indigenous cement manufacturing machinery, its delivery period, latest technological advancements etc. Information on various other issues closely connected with the inquiry was also called for from the Planning Commission, State Trading Corporation (S.T.C.), Railway Board and the Ministry of Steel, Mines and Metals and Indian Standards Institution (I.S.I.). The Jute Commissioner and Indian Jute Mills Association were addressed for information relating to the latest position about availability and price of gunny bags for packing of cement. Similar information relating to coal was sought from the Coal Controller and Joint Working Committee of the Coal Producers. The Coal Consumers' Association of India, Calcutta was requested to furnish information about the various problems including the prices of coal. Geological Survey of India (G.S.I.) was requested to furnish information relating to the known lime stone deposits in the country. National Productivity Council and Cement Research Institute of India (C.R.I.I.) were addressed regarding matters relating to the productivity and research and development respectively. Some of the Indian Embassies/High Commissions abroad were requested to furnish material on the position of cement industry in their respective accredited countries. The State Governments were approached for their views on the overall position of the industry relating to demand, supply, surplus/deficit etc., in their respective States. Important financial institutions were addressed for information about policy of granting loans and actual loans sanctioned to the cement industry. Certain aspects of the Shipping Development Fund were obtained from the authorities of the Fund under the Ministry of Shipping. A number of labour unions including the labour unions directly connected with the cement industry

were requested to furnish their views on various matters connected with the present inquiry such as the labour management relations in the cement industry, implementation of the Wage Board's Awards, the question of payment of bonus, increase in the wages to be paid to the labour etc.

4.2. Special questionnaires were issued to the consumers of cement. Letters were also addessed to various other interests such as the Consumer Guidance Society, the Fair Trade Practices Association and the Consumers Council of India and the Commissioner of Civil Supplies, Ministry of Industrial Development seeking their views on matters connected with the cement industry. A press note was issued on 18th July 1972, inviting firms, Associations, and others interested in the inquiry to obtain copies of relevant questionnaires and furnish their replies thereto. A list of firms, bodies and State Governments etc., to whom our questionnaires or letters were addressed and from whom replies or memoranda were received is given in Appendix 3.

4.3. Selection of units for costing

There are at present 52 units engaged in the manufacture of cement. We did not consider it necessary to examine the costs of production of all the existing units and selected from the cross section of the industry, a representative sampl comprising of 23 factories as listed in Appendix 4, having regard to various factors such as location of the factory, capacity, process of manufacture, age of the plant etc. Suitable representation was given to the public sector also. Before finalising the cost sample, we invited the views of the C.M.A. in the matter and also held detailed discussions with its representatives.

4.4. Visits

We visited some of the cement factories located in different regions to gain a first hand knowledge of the industry. Our Cost Officers were deputed to all but six of the selected units to examine their costs of production for the latest accounting year for which audited data were available i.e.

1971 in certain cases and 1971-72 in others. The cost of production of the remaining six units was examined by the Cost Officers of the Ministry of Finance at our request. List of factories visited by us (List A) and by the Cost and other Officers (List B) is given in Appendix 5.

4.5. Public Inquiry

A Public Inquiry was held at the Indian Merchants Chamber Hall in Bombay on 8th and 9th and continued at our Meeting Hall on 10th, 11th, 12th and 14th May, 1973. A list giving the names of persons who attended the public inquiry is given in Appendix 6. We also held discussions with the representatives of the D.G.T.D., Ministry of Industrial Development, Cement Controller, D.G.S. & D. and Controller of Mines on 7th May 1973.

4.6. In Camera Cost Discussions

The public inquiry was followed by *in camera* cost discussions with the representatives of the various companies selected for detailed examination of costs regarding their individual costs of production as per details of the programme given in Appendix 7.

5.1. Retention prices payable to the producers in 1961.

5.1.1. In its 1961 Report the Commission had recommended separate retention prices to be given to individual producers who were then manufacturing cement.

5. Retention prices payable in 1961 and the subsequent developments.

The Commission had not found it feasible to recommend a uniform price for the entire industry due to the wide disparity in the costs of production of various units.

5.1.2. The Government, however, felt that a system of differential prices based on individual costs was not conducive to efficiency and greater production and a uniform price for the industry as a whole would have the effect of compelling the high cost units to seek economies and provide a measure of reward to those units able to achieve them. It was further considered that in the long run a uniform price

would also check the rising trend of prices in the industry. Government, however, recongnised that in the case of a few units having appreciably higher costs on account of special reasons, an extra price will have to be allowed for a period of time, such as would enable them to continue in production until, by reaching economic levels, they were able to operate within the uniform price. A price of Rs. 69.50 per tonne was accordingly allowed to a majority of units while an additional price of Rs. 3.00 per tonne and Rs. 5.50 per tonne was granted to certain other units as shown below :

TABLE 5.1

Units for whom special prices were granted in 1961

Name of the units	Rs. per tonne
India Cements	3.00
Shree Digvijay Cement	
Satna (Birla Jute)	
Kalyanpur	
Sone Valley	
Panyam	5.50
Saurashtra	
Madras	

Thus the three tier system of prices of Rs. 69.50, Rs. 72.50 and Rs. 75.00 per tonne came into existence. However, in view of the peculiar position obtaining in the case of Travancore Cements, an additional price of Rs. 25.50 per tonne over the basic price of Rs. 69.50 per tonne was fixed for this unit.

5.1.3. The retention prices as recommended by the Commission and the final prices fixed by the Government are set out below :—

TABLE 5.2

The retention prices (naked ex-works) payable to producers as per Commission's recommendations in 1961 Report and those fixed by Government

(Rs. per tonne)

Name of the Producers	Commission's recommendation (1961)	Government's decision on 1-11-1961
1	2	3
A.C.C.	73.50	69.50
Andhra	73.00	69.50
Ashoka	75.50	69.50
Bagalkot	75.00	69.50
Dalmia Cement (BHARAT)	67.50	69.50
Dalmia Dadri	75.00	69.50
Digvijay	79.00	72.50
India Cements	76.50	72.50
Jaipur Udyog	75.00	69.50
Kalyanpur	79.00	72.50
K.C.P.	73.50	69.50
Madras Cements	77.50	75.00
Mysore Iron	73.50	69.50

1	2	3
Orissa	73.00	69.50
Panyam	79.50	75.00
Rohtas	73.00	69.50
Satna (Birla Jute)	77.50	72.50
Saurashtra	77.50	75.00
Sone Valley	79.00	72.50
Travancore	103.00	95.00
U.P. Cements	75.00	69.50

5.1.4. The following were the other decisions of the Government on the recommendations made in the 1961 Report.

(a) The prices mentioned above were exclusive of the payment to selling agents (Rs. 1.50 per tonne) and incidental charges on packing (Rs. 1.25 per tonne). The prevalent practice in regard to these payments was to continue.

(b) The above prices were inclusive of an allowance of Rs. 2.00 per tonne towards rehabilitation and other approved purposes such as research, development etc. The prevalent procedure applicable to rehabilitation allowance was to apply in this regard.

(c) The above prices were to remain in force till 31st March, 1966 subject to adjustments whenever called for, for variations consequent on Governmental action including escalation for fuel and power.

(d) Cases of new units and substantial expansions were to be dealt with within the general framework set out above.

(e) The resultant selling price of naked cement was to be Rs. 94.00 per tonne plus excise duty.

5.2. **Developments after 1961**

Subsequent to the Commission's Report in the year 1961 up to the beginning of 1966 increases in ex-works prices of cement were allowed four times by the Government. Details of these increases are set out below.

5.2.1. In 1962, the cement industry claimed an increase in the ex-works price arising from as many as 16 items of costs. After examining the claim the Government decided that there was a case to consider increases only in respect of those items which had industry-wide basis and where the increase in costs could not normally be met out of the contingency allowance of Rs. 2.00 per tonne already included in the ex-works price structure. The Government, accordingly, sanctioned an increase of Rs. 2.75 per tonne with effect from 1-6-1963. In January 1964, the industry submitted a claim for a further increase in price on account of increase in pit-head price of coal, increase in rail freight, levies on electricity and increase in rate of contributions to employees' provident fund, sales tax etc. After examining the claim Government allowed an increase in the ex-works price by Rs. 1.25 per tonne with effect from 1-7-1964. By the year 1965, further increases in costs were noticed. The position was examined by the Chief Cost Accounts Officer of the Ministry of Finance. Accordingly, the ex-works price was increased by Rs. 4.00 per tonne with effect from 1-6-1965.

5.2.2. **Decontrol**

The producers continued to complain that the strict price control and the consequential lack of internal financial resources were mainly responsible for the tardy growth of the industry. With a view to enabling the industry to undertake expansion programme, the Government decided

to decontrol the cement industry with effect from 1-1-1966. Simultaneously with this decision, the industry accepted a form of self-regulating control through an organisation called The Cement Allocation and Coordinating Organisation (C.A.C.O.). With a view to providing for a development element in the price to help meet some part of the costs of the future expansion programme, the pre-decontrol f.o.r. price was agreed to be increased by Rs. 16.00 per tonne with a rebate of Rs. six per tonne for supplies to the D.G.S. & D. under contract. As 50 per cent of the production of cement was earmarked for supply under the rate contract, the increase in price worked out to Rs. 13.00 per tonne on an average.

5.2.3. To sum up, the following four increases were allowed in the ex-works prices of cement from 1961 to 1966 i.e. up to the time of lifting of control :—

Date	Rs. per tonne
1-6-1963	2.75
1-7-1964	1.25
1-6-1965	4.00
1-1-1966	13.00
TOTAL .	21.00

As a result of the above increases, the three tier ex-works prices came to be Rs. 90.50, Rs. 93.50 and Rs. 96.00 per tonne when the control was lifted with effect from 1st January, 1966. So far as Travancore Cements was concerned the price was fixed at Rs. 113.25 per tonne.

5.3. Recontrol

5.3.1 Unfortunately, the new pattern of voluntary control by the industry through C.A.C.O. did not succeed. Due to various reasons C.A.C.O. was neither in a position

to exercise efficient control over the various units comprising the industry, nor could ensure equitable distribution of cement throughout the country. Control over price and distribution of cement was therefore re-introduced by Government with effect from 1-1-1968 by the issue of Cement Control Order, 1967 under the Industries (Development & Regulation) Act, 1951. A senior officer was also designated as Cement Controller to exercise overall supervision on the distribution of cement.

5.3.2. **Fixation of uniform price**

Subsequent to the reimposition of control from the beginning of 1968 there was further request from the industry for an upward revision in the ex-works price of cement as a result of increase in costs due to various circumstances including Governmental actions. The matter was examined by Government once again. Since the Government had accepted the necessity for a uniform price even as early as 1961, Government fixed on the 16th April, 1969 a uniform ceiling ex-works price of Rs. 100.00 per tonne inclusive of an amount of Rs. seven per tonne on account of increase in cost of production as a result of Governmental actions since 1-1-1966. This position continued till 15-9-1973 when the Government, as a result of the recommendations made in our Interim Report of 24-3-1973 allowed an interim increase of Rs. 10.00 per tonne.

5.4. **Other Developments**

5.4.1. The continuation of controls came up for review towards the end of 1968. It was being urged by a section of the industry that the concept of freight equalisation and uniform selling price was to some extent responsible for the regional imbalance in the development of the industry and its continuation would only accentuate such imbalance. Keeping in view the fact that the Government had accepted in principle a policy of progressive decontrol, that the system of freight pooling and a uniform f.o.r. destination price had been in existence for a considerable time and that the supply position was considerably easy, Government decided in April 1969 to

remove all controls over price and distribution of cement and also to abolish the system of freight pooling with effect from 1st January, 1970.

5.4.2. Subsequent to this decision, however, numerous representations were received by the Government from small and single unit producers, State Governments, Chambers of Commerce and Industry and Members of Parliament urging reconsideration of the decision to discontinue the system of control over price and distribution, and freight pooling. Almost all the producers including the public sector units, except some big groups in the industry, were in favour of continuance of both controls over price and distribution and the system of freight pooling. Various grounds against the removal of control and abolition of the system of freight pooling were put before the Government. It was urged that the supply position was not as easy as was assumed by the Government, that there might be price increase after decontrol especially in the deficit areas and that in the absence of co-ordinated distribution through freight pooling, the units in surplus areas would not be able to move their surplus production to deficit zones and therefore they would be forced to curtail their production and thereby suffer heavy losses. Re-examination of the Governments decision was therefore sought. After taking into consideration all the circumstances Government decided that the existing arrangements for freight pooling and sale of cement on f.o.r. destination basis should continue beyond 31st December 1969.

5.5. The Schedule to Clause 7 of the Cement Control Order 1967 (as amended up to 31-5-1972) specified the following ex-factory prices payable to producers.

Producers	Price metric tonne
	Rs.
(i) M/s. Travancore Cements Ltd., Kottayam	120.25
(ii) M/s. Assam Cements Ltd., Cherrapunji	123.50
(iii) All other Producers . .	100.00

"In case of rapid hardening cement and low heat cement an additional price of Rs.12 per tonne may be added to the price specified above."

"In the case of Cement delivered ex-Sewree Works and ex-Ahmedabad Works of M/s. Shree Digvijay Cement Co. Ltd., an additional price of Rs. 59.00 and Rs. 27.40 per metric tonne, respectively, may be allowed."

"In the case of clinker moved by Sea from Sikka to Bombay, payment of wharfage charges paid at Sikka may also be allowed".

5.6. Consequent to the acceptance of our recommendations made in March 1973 for an interim increase of Rs. 10.00 per tonne in the retention price, Government *vide* Resolution No. 1-23/73-Cem. dated 15th September 1973 reissued the Cement Control (Fourth Amendment) Order 1973, revising the Schedule to Clause 7 as follows:

"Name of the Producer	Price per Metric Tonne
	Rs.
(i) M/s. Travancore Cements Ltd. Kottayam .	130.25
(ii) M/s. Assam Cements Ltd., Cherrapunji . .	133.50
(iii) Shree Digvijay Cement Co. Ltd.—	
(i) ex-Sewree Works	172.20
(ii) ex-Ahmedabad Works	138.70"

"In the case of clinker moved by sea from Sikka to Bombay, payment of wharfage charges paid at Sikka may also be allowed".

(iv) All other producers	110.00

"In the case of rapid hardening cement and low heat cement, an additional price of Rs. 12.00 per metric tonne may be added to the price specified above".

5.7. F.O.R. destination prices since 1961

5.7.1. As mentioned in paragraph 1.3.1.2, a uniform all India price on f.o.r. destination basis (inclusive of the Union excise duty and the inter-State sales tax) prevailed throughout the country. This price was arrived at after adding to the ex-works retention price various items such as average freight, selling agency commission, contigencies, administrative expenses, rate contract rebate, packing charges and excise duty etc. Consequent on the increase in the ex-works prices of cement from 1961 till 1969 details of which have already been set out in paragraphs 5.2 and 5.3, the f.o.r. destination prices also underwent consequential changes. Thus, when the Government decided to adopt a uniform ex-works retention price of Rs. 100.00 per tonne in April 1969, the f.o.r. price worked out to Rs. 129.13 per tonne.

5.7.2. Details of changes in f.o.r. destination prices, packing charges and excise duty since 1-1-1968 to 15-9-1973 as furnished by the Cement Controller are given in Appendix 98. It will be seen from that same the f.o.r. price was further revised upwards after April 1969 and it stood at Rs. 151.00 per tonne on 15-9-1973 exclusive of packing charges and excise duty. During this period packing charges and excise duty also underwent some changes. After taking into consideration all such changes the total f.o.r. price (including packing charges and excise duty) prevalent as on 15-9-1973 amounted to Rs. 222.27 per tonne.

CHAPTER II

GROWTH AND PRESENT STRUCTURE OF THE INDUSTRY

6. Brief History of the Growth

6.1. Since the Commission's last inquiry in the year 1961, cement industry has made significant and rapid progress. The number of units has risen from 34 to 52 (including two grinding units). The number of States in which cement is being produced has risen to 14 as against 11 in the year 1961. The licensed capacity has more than doubled from 9.5 million tonnes in 1961 to 19.7 million tonnes as on 1-9-1973. The production of cement has increased from about 8.2 million tonnes in 1961 to 15.7 million tonnes in 1972, during Jan. Sept. 1973 it was 10.9 million tonnes. The Associated Cement Companies (ACC) continued to be the largest group in the industry owning 17 units as against 14 in the year 1961. The public sector has also entered the field in a big way. There are now nine public sector units compared to two in 1961. The Cement Corporation of India which is a Government of India undertaking and the Uttar Pradesh State Government are owing two units each. The other five units are owned each by the State Governments of Assam, Jammu & Kashmir, Karnataka, Orissa and Tamil Nadu.

6.2. Additions since 1961

6.2.1. Since the Commissions last inquiry in the year 1961, 18 new units started production. Details of these new units are given in the Table below:

TABLE 6.1

Units which came into production since last inquiry.

Sl. No.	Name of the Unit	Year of establishment
(i)	Sewree (Digvijay)	1961
(ii)	Ammasandra (Mysore Cements)	1962
(iii)	Wuyan (J. & K. State)	1963
(iv)	Sankaridurg (India Cements)	1963
(v)	Jamul (A.C.C)	1965
(vi)	Ahmedabad (Digvijay)	1966
(vii)	Cherrapunjee (Assam Cements)	1966
(viii)	Chittorgarh (Birla Jute)	1967
(ix)	Bargarh (Hira Cements)	1968
(x)	Pulliyur (Chettinad)	1968
(xi)	Wadi (A.C.C.)	1968
(xii)	Ramagundam (Kesoram)	1969
(xiii)	Alangulam (Tamil Nadu Cements)	1970
(xiv)	Dalla (U.P. State)	1970
(xv)	Chanda (A.C.C.)	1970
(xvi)	Udaipur (Hindustan Sugar)	1970
(xvii)	Mandhar (Cement Corporation)	1970
(xviii)	Kurkunta (Cement Corporation)	1972

6.2.2. Significant additions to capacity took place in Tamil Nadu, Madhya Pradesh and Gujarat while smaller increases took place in all other States except Kerala. Three

States mainly Maharashtra, Jammu & Kashmir and Meghalaya entered the field of cement industry for the first time since the year 1961.

6.3. A statement showing the licensed capacity and the number of units State-wise and zone-wise as on 1-9-1973 is given below :

TABLE 6.2

Licensed capacity and number of units State-wise and zone-wise

Zone/State	Licensed capacity as on 1-9-1973 ('000 tonnes)	No. of units
North Zone		
(1) Haryana	545	2
(2) Jammu & Kashmir	20	1
(3) Rajasthan	1,966	4
(4) Uttar Pradesh	907	2
NORTH ZONE TOTAL	3,438	9
East Zone		
(5) Bihar	2,408	7
(6) Meghalaya	84	1
(7) Orissa	797	2
EAST ZONE TOTAL	3,289	10
West Zone		
(8) Gujarat	2,281@	6
(9) Maharashtra	600@	2
(10) Madhya Pradesh	2,729	5
WEST ZONE TOTAL	5,610	13

1	2	3
South Zone		
(11) Andhra Pradesh	1,926	6
(12) Kerala	51	1
(13) Karnataka	2,034	6
(14) Tamil Nadu	3,412	7
SOUTH ZONE TOTAL . .	7,423	20
GRAND TOTAL . .	19,760	52

@The Ministry of Industrial Development has given us the licensed capacity at 840 thousand tonnes for Shree Digvijay Cement Company which has its clinker plant located at Sikka (Gujarat) and two grinding plants each at Ahmedabad (Gujarat) and Sewree (Maharashtra). Based on the information received from the Cement Controller the capacity has been split up into 540 thousand tonnes at Sikka, 100 thousand tonnes at Ahmedabad and 200 thousand tonnes at Sewree.

It will be seen from the above that the South zone accounts for a little more than a third of the entire capacity in the industry (38 per cent) followed by West Zone which accounts for a little over a quarter (28 per cent) followed by the North Zone and East Zone accounting for about 17 per cent each of the total. In terms of numbers also the South Zone accounts for 20 units followed by West Zone, East Zone and North Zone with 13, 10 and 9 respectively.

7. Present position.

7.1. A statement showing the names of the companies engaged in the manufacture of cement, location of their plants, year of commencement of production and age, types of cement produced process adopted as well as details of their activities other than the manufacture of cement is given in Appendix 9.

7.2. From the available data, we find that there are as many as 16 units whose age is more than 30 years. The Porbundar unit of the A.C.C. is the oldest. It was started

in the year 1913 and is over 60 years old. It is followed by Lakheri, Dwarka, Banmor and Kymore units of the A.C.C. which are 56, 52, 51 and 50 years old respectively. The Japla unit of the Sone Valley Portland Cement Company is 51 years old. As against this, the Kurkunta unit of the Cement Corporation of India Ltd., situated in Mysore State is the newest unit. It started its production on trial-run basis in the later part of the year 1972. No new plant has started production in 1973. A summary of the age pattern of the 52 units in production is given below:

TABLE 7.1

Age pattern of the Units

Age range (years)	No.
Below 10	14
10—19	14
20—29	8
30—39	9
40—49	1
50 and above	6
TOTAL	52

7.3. A statement showing the size of the units compiled on the basis of licensed capacity as on 1-9-1973 furnished by the Ministry of Industrial Development is given in Appendix 10. It will be seen that the smallest unit located at Wuyan, Jammu & Kashmir State, has an annual capacity of only 20,000 tonnes whereas the biggest unit is situated at Jamul Madhya Padesh belongs to A.C.C. having a capacity of

10.80 lakh tonnes per annum. The overall position of 52 units is set out below:

TABLE 7.2

Size of the Units

Capacity range (thousand tonnes)	Nos.
Below 100	4
100—199	4
200—299	12
300—399	11
400—499	10
500—599	4
600—699	1
700—799	1
800—899	2
900—999	1
1000 and above	2
TOTAL	52

The above Tables shows that while there are two units whose capacity is more than one million tonnes and eight units whose capacity is less than 200 thousand tonnes, the majority of the units falls in the range of 200/499 thousand tonnes.

7.4. According to the C.M.A. 13 out of the 52 units are using latest technology and extensive instrumentation for process control. Ten units have adopted the dry process, 37 the wet process and three others combination of both. The remaining two which are owned by the Digvijay Cement Co. are only grinding units. While almost all the units in general produce ordinary portland cement (OPC), Mysore Iron & Steel Company and the Jamul unit of the A.C.C.

produce only portland blast furnace slag cement (PBFS) Cement. On the whole 28 units produce only OPC while the remaining units produce other types of cement also. The pattern of production, however, some times may change depending upon the requirements of the consuming sector. Sixteen units have, besides the manufacture of cement, other manufacturing activities also such as the manufacture of refractories cement making or other machinery, jute goods calcium carbide, sugar, foundry, iron and steel etc. According to C.M.A. such composite units combining other activities with the activity of cement production have shown better financial results and are in a relatively better position to mobilise finances for cement than those units which confine their activities to the manufacture of cement only. The C.M.A. attributes this position to the retention prices fixed for the cement industry being unremunerative.

7.5. We understand that no foreign collaboration (technical or financial) is allowed in the cement industry nor is the industry permitted to import any plant and machinery. However, foreign exchange at pack value of 8 to 12 per cent is released to manufacturers of cement machinery for importing components which are not available indigenously.

8. Capacity

8.1. Considerable additions to the licensed capacity in the cement industry have taken place since the Commission's last inquiry in the year 1961. These additions have been achieved mainly because of the 18 units which have come up and to some extent on account of the expansion of the units already in production at that time. According to the Ministry of Industrial Development, the total licensed capacity of the industry stood at 19760 thousand tonnes as on 1-9-1973. State-wise, Tamil Nadu has the highest capacity of 3412 thousand tonnes while Jammu & Kashmir has the lowest capacity of 20 thousand tonnes. The State-wise capacity in ascending order along with the number of units in each State is given in the following Table.

TABLE 8.1

State-wise licensed capacity in ascending order

State		'000 Tonnes	Units
(i)	Jammu & Kashmir . . .	20	1
(ii)	Kerala	51	1
(iii)	Meghalaya	84	1
(iv)	Maharashtra @ . . .	600	2
(v)	Harayana	545	2
(vi)	Orissa	797	2
(vii)	Uttar Pradesh	907	2
(viii)	Andhra Pradesh . . .	1,926	6
(ix)	Rajsthan	1,966	4
(x)	Karanataka	2,034	6
(xi)	Gujarat @	2,281	6
(xii)	Bihar	2,408	7
(xiii)	Madhya Pradesh . . .	2,729	5
(xiv)	Tamil Nadu	3,412	7
	TOTAL . . .	19,760**	52

**The licensed capacity as given by the Cement Controller is however 19705 thousand tonnes as he has not included the J & K unit (20,000 tonnes) and Porbundar unit's capacity of white cement (35,000 tonnes).

@Please see the foot note at the end of Table 6.2.

8.2. The Unit-wise licensed capacity according to States and zones is given in appendix 11.

8.3. It will be seen from the above Table that in terms of number of units, Bihar and Tamil Nadu have seven units

each followed by Andhra Pradesh, Gujarat and Mysore with six units each. Madhya Pradesh and Rajasthan have five and four units respectively even though in terms of licensed capacity, Madhya Pradesh ranks second in the country. The above seven out of the 14 States account for 41 out of 52 units in the country. In terms of capacity, these seven States share a major portion of 16756 thousand tonnes of the total licensed capacity. Thus while cement is a commodity consumed all over the country, bulk of its production capacity is concentrated only in a few States creating thereby imbalance between supply and demand. The question of regional imbalance in the industry is discussed in a separate paragraph later in this Report.

9. Production

9.1. Production in the cement industry has been gradually rising as will be seen from the following Table.

TABLE 9.1

Production of cement during the years 1968 *to* 1972 *and* 1973 *(Jan-Sept.)*

(Thousand tonnes)

Year	Production
1968	11,892
1969	13,576
1970	13,912
1971	14,904
1972	15,713
1973 (Jan-Sept.)	10,893

(*Source* : Cement Controller)

Though the production has gone up it has hardly kept pace with the demand as indicated in paragraph 15.2.

10. Capacity utilisation

10.1. Details of capacity utilisation based on the licensed capacity and production of each of the cement units during the years 1968 to 1972 and 1973 (Jan-Sept.) as furnished by the Cement Controller, are given at Appendix 12. The following Table summarises the overall position.

TABLE 10.1

Capacity Utilisation

(Thousand tonnes)

Year	Capacity	Production	Percentage
1968	14,314	11,892	83
1969	14,514	13,576	94
1970	16,916	13,912	82
1971	19,349	14,904	77
1972	19,705	15,713	80
1973 (Jan-Sept.) . . .	14,783*	10,893	74

*Prorata basis.

(*Source* : Cement Controller)

10.2. The above statement gives the impression that capacity utilisation was highest in 1969 being 94 per cent. However, we found from the figures furnished by the Cement Controller that he had worked out the capacity utilisation for both 1968 and 1969 (unlike in other years) by taking the production during these years and relating it to the capacity of the plants furnished by the producers at the beginning of these yers. Normally the calculation of capacity utilisation is based on the production during the year in relation to the capacity of the plant at the end of the year so that any additions to the plant made during the years are also taken note of. On this basis, on verification from D.G.T.D. it was found that the capacity utilisation during 1968 and 1969 was actually only 81 and 88 per cent respectively. In fact the Task Force on Cement in its report has also adopted the figures of 81 and 88 per cent.

10.3. The State-wise and zone-wise position as furnished by the Cement Controller is summarised in the Table below :

TABLE 10.2

Zone/State- wise capacity, production and capacity utilisation 1968 *to* 1973 (*Jan-Sept.*)

(In '000 Tonnes)

Zone/State		1968	1969	1970	1971	1972	1973 (Jan.-Sept.)
1. NORTH ZONE							
1. Haryana	C	498	493	545	545	545	410
	P	511	522	520	496	473	394
	%	103	106	95	91	87	96
2. Jammu* & Kashmir							
3. Rajasthan	C	1,371	1,371	1,585	1,966	1,966	1,474
	P	1,358	1,471	1,390	1,400	1,586	1,029
	%	99	107	88	71	81	70
4. Uttar Pradesh	C	480	480	475	907	907	680
	P	345	391	354	426	664	438
	%	72	82	75	47	73	64
NORTH ZONE TOTAL	C*	2,349	2,344	2,605	3,418	3,418	2,564
	P*	2,214	2,384	2,264	2,322	2,723	1,861
	%*	94	102	87	68	80	73

(In '000 Tonnes)

Zone/State		1968	1969	1970	1971	1972	1973 (Jan.-Sept.)
II. EAST ZONE							
5. Bihar	C	1,914	1,914	2,114	2,408	2,408	1,809
	P	1,595	1,689	1,751	1,600	1,655	1,321
	%	83	88	83	66	69	73
6. Meghalaya	C	80	80	84	84	84	63
	P	62	69	55	74	48	53
	%	78	86	66	88	57	84
7. Orissa	C	761	761	797	797	797	598
	P	592	656	627	661	788	550
	%	78	86	79	83	99	92
EAST ZONE TOTAL . . .	C	2,755	2,755	2,995	3,289	3,289	2,470
	P	2,249	2,414	2,433	2,335	2,491	1,924
	%	82	88	81	71	76	78

TABLE 10.2—*Contd.*

(In '000 Tonnes)

Zone/State		1968	1969	1970	1971	1972	1973 (Jan.-Sept.)
III. WEST ZONE							
8. Gujarat	C	1,911	1,911	1,916	2,246	2,246	1,685
	P	1,504	1,680	1,609	1,666	1,684	1,196
	%	79	88	84	74	75	71
9. Maharashtra	C	200	200	600	600	600	450
	P	133	160	267	465	475	354
	%	67	80	45	78	79	79
10. Madhya Pradesh	C	2,271	2,271	2,730	2,730	2,730	2,047
	P	1,612	2,009	1,992	2,130	2,302	1,682
	%	71	89	73	78	84	82
WEST ZONE TOTAL	C	4,382	4,382	5,246	5,576	5,575	4,182
	P	3,249	3,849	3,868	4,261	4,461	3,232
	%	74	88	74	76	80	77

IV. SOUTH ZONE

11. Andhra Pradesh . . .	C	1,405	1,605	1,613	1,926	1,926	1,445
	P	1,145	1,369	1,458	1,613	1,609	975
	%	82	85	90	84	84	68
12. Kerala	C	50	50	51	51	51	38
	P	37	43	42	39	31	26
	%	74	86	82	77	61	68
13. Karnataka	C	1,250	1,255	1,702	1,677	2,034	1,525
	P	1,014	1,278	1,458	1,536	1,588	1,293
	%	81	102	86	92	78	85
14. Tamil Nadu	C	2,123	2,123	2,704	3,412	3,412	2,559
	P	1,984	2,239	2,389	2,798	2,810	1,582
	%	94	106	88	82	82	62
SOUTH ZONE TOTAL . .	C	4,828	5,033	6,070	7,066	7,423	5,567
	P	4,180	4,929	5,347	5,986	6,038	3,876
	%	87	98	88	85	81	70
GRAND TOTAL . . .	C	14,314	14,514	16,916	19,349	19,705	14,783
	P	11,892	13,576	13,912	14,904	15,713	10,893
	%	83	94	82	77	80	74

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*This is exclusive of Jammu & Kashmir.

Source : Cement Controller.

C=Capacity. P=Production. %=Capacity Utilisation.

NOTE.—(1) According to the Cement Controller the figures of licensed capacity for 1968 and 1969 were taken on the basis of figures furnished by the Producers and as at the beginning of the year while figures for subsequent years are taken as furnished by the Ministry as at the end of the year.

@(2) Figures for Jammu & Kashmir unit are not included by the Cement Controller in this list.

(3) According to the Ministry of Industrial Development the licensed capacity in 1973 was 1976o thousand tonnes which included the J. & K. unit capacity of 20,000 tonnes and 35,000 tonnes of white cement relating to Porbandar unit (ACC), while the capacity according to the Cement Controller was 19705 thousand tonnes which was exclusive of J. & K. unit and the capacity for white cement relating to Porbandar.

10.4. It will be seen from the above Table that while in respect of production rising trend is maintained in almost all the States, there has been a substantial decrease in respect of overall capacity utilisation since the year 1970.

10.5. The Cement Controller has furnished to us information relating to the capacity utilisation of various individual cement units for the years 1968 to 1972 and 1973 (January-September) (Appendix 12). This information does not include particulars relating to the Wuyan unit situated in Jammu & Kashmir. An analysis of this information according to different ranges of capacity utilisation shows the following position. While dealing with the individual analysis of capacity utilistion we have left out 1968 and 1969 data furnished by the Cement Controller from comparison in view of what we have stated at Paragraph 10.2.

TABLE 10.3

Range of capacity utilisation

Range in percentage	Number of units			
	1970	1971	1972	1973 (Jan.-Sept.)
Below 50 . . .	4	3	5	2
50—59 . . .	2	1	2	8
60—69 . . .	5	10	3	13
70—79 . . .	6	7	12	6
80—89 . . .	11	10	12	10
90—99 . . .	10	15	11	6
100 and above . .	11	4	6	6
TOTAL .	49	50	51	51

The above Table shows that quite a number of units could attain capacity utilisation of 100 per cent and above, though their number has been varying. On an average, about 29 to 30 units have been able to utilise capacity exceeding 80 per cent. However, the position has worsened in respect of quite a number of units particularly in 1973 on account of various external constraints such as drastic power cut, wagon shortage etc.

10.6. According to the Cement Controller, certain inherent constraints which are beyond the control of both management as well as Government, such as short supply of wagons, power break-down, mechanical break-down, labour strikes etc., are mainly responsible for under-utilisation of the available capacity. In support of this, the Cement Controller has furnished data showing factors affecting production during the years 1970, 1971, 1972 and 1973 (Jan.-Sept.). This data is briefly presented in the Table on the next page.

सत्यमेव जयते

TABLE 10.4

Factors affecting Cement production (loss in production)

(In '000 tonnes)

Factors affecting production	1970		1971		1972		1973 (Jan.-Sept.)	
	Qty.	%	Qty.	%	Qty.	%	Qty.	%
1	2	3	4	5	6	7	8	9
(i) Repairs to kilns/Break-down .	238	8	446	11	214	6	72	2
(ii) Repairs to raw Mill/shortage of clinker	62	2	51	1	63	2	42	1
(iii) Mechanical/Electrical trouble .	270	9	143	4	82	2	206	5
(iv) Repairs to Cement Mill . .	136	5	244	6	87	3	51	1
(v) Short supply of limestone/gypsum	38	1	109	3	36	1	139	4
(vi) Water shortage . . .	36	1	..	..	..	..	..	..
(vii) Power break-down/Resrictions .	162	6	104	3	622	18	2,042	52

(In '000 Tonnes)

1	2	3	4	5	6	7	8	9
(viii) Short supply of wagons . .	922	31	1,481	38	1,181	34	476	12
(ix) Production and marketing troubles of new factories . .	218	7	321	8	313	9	73	2
(x) Labour strikes . . .	204	7	196	5	676	19	397	10
(xi) Short supply of coal . .	..	...	75	2	45	1	275	7
(xii) Lower despatches/want of workable orders	19	1	39	1	...	...	..	..
(xiii) Miscellaneous	651	22	699	18	152	5	159	4
TOTAL .	2,956	(100)	3,908	(100)	3,471	(100)	3,932	(100)

% : Percentage of loss to total.

Source : Cement Controller.

10.7. It is apparent from the above Table that during the years 1970 to 1972 short supply of railway wagons was one of the major factors responsible for under utilisation of capacity. This question of short supply of wagons has been dealt with at greater length in paragraph 30. Repairs to kilns and break-down in plant and machinery were another disturbing element. Mechanical and technical trouble also appeared to be quite frequent, presumably due to old and obsolete plant and machinery of some of the cement factories. Power break-down which was comparatively less during 1970 and 1971, became a very significant factor contributing towards fall in production in 1972 and 1973 (Jan.-September). The above Table confirms the various difficulties in achieving higher capacity utilisation highlighted by the C.M.A and the representatives of the producers in the course of the public inquiry.

सत्यमेव जयते

CHAPTER III

ECONOMIC SIZE, LICENSING POLICY AND EXPANSION

11. Economic size of a cement plant

11.1. The viability of any enterprise depends upon various factors such as availability of raw materials of suitable quality in adequate quantity advantageous location, managerial efficiency, labour productivity, demand for the product etc. However, another very important element which contributes to the profitablity of a unit to a considerable extent is its economic size. The term "economic size" however, is a relative one and what is an economic size in one country may not be so in another.

11.2. In the United Nations Inter-Regional Seminar on Cement Industry held in Denmark during May 1964, it was opined that "for a big country like India where limestone reserves are not uniformly dispersed and there are a large number of single deposits of as high a reserve as 100 million tonnes, the smallest economic unit in such a location should be accepted at 4 lakh tonnes per annum based on two kilns of 600 tonnes per day capacity each."

11.3. As the concept of "economic size" keeps on changing we had requested the C.M.A., D.G.T.D. and the producers to indicate as to what they consider to be the economic size of a cement plant in our country under the present conditions. Their views are set out below:

11.3.1. According to the C.M.A. , it is very difficult to say as to what size of a unit could be considered as economic in India compared to some of the advanced countries where kilns of even 5,000 tonnes per day are in operation. Though there is no doubt that larger the size of the plant, more economic is its operation, this problem must also be viewed from another important angle, namely, employment potential. Technically sophisticated plant and machinery means lower labour requirements. Keeping in view the present

national employment policy, it would be advisable, according to C.M.A., to strike a balance between employment reorientation and economies of scale. The C.M.A. is of the opinion that whilst by and large under Indian conditions a unit with a single kiln of 1200 tonnes a day capacity may be regarded as an economic unit, it would be advisable to have two kilns of 600 tonnes per day instead of one kiln of 1200 tonnes per day. In view of the peculiarities of conditions prevailing in India, especially the transport difficulties, irregular power supply and movement of coal, at least one of the two kilns could then be kept working instead of shutting down the entire plant.

11.3.2. The D.G.T.D. has stated that until recently a cement plant of two lakh tonnes per annum capacity used to be considered as of economic size. He has, however, stated that the present trend is towards putting up plants of capacity of four lakh tonnes per annum. The D.G.T.D. has also informed us that a number of units with an annual capacity of two lakh tonnes have taken steps for expansion of their units to an annual capacity of four lakh tonnes with a view to reaching this economic size. These units are A.C.C. (Chanda), Birla Cement Works (Chitorgarh), Tamil Nadu Cements (Alangulam) and Mysore Cements (Ammesandra).

11.3.3. A majority of producers have also opined that a unit with 1000-1200 tonnes a day capacity or an annual capacity of four lakh tonnes can be considered to be a unit of an economic size. A couple of the producers have, however, stated that they are in favour of having larger capacity of eight to ten lakh tonnes per annum.

11.4. The Task Force No. V on the "Machine Tools, Industrial Machinery and Allied Industries" in its Report of June 1973 has stated that "In the past, 600 tonnes per day plants were, by and large, acceptable to the indigenous cement industry. There has been recent trends that larger size cement plants would be desirable to get the benefits of economics of scale. The indigenous machinery manufacturers are already geared up to manufacture and supply the cement plants upto 1,000/1,200 tonnes per day capacity. There may

be demands for even higher capacity plants upto 2,000 tonnes per day capacity."

"For the time being, the size of cement plant would have to be limited to 1,000/1,200 tonns per day single unit due to the problems arising from the rail transport limitations of over sized components as well as difficulties to be faced in the procurement of heavy castings from indigenous sources".

11.5. From the above *it appears that the general consensus of technical opinion now is in favour of* 1,200 *tonnes per day* (*i. e.* 400,000 *tonnes per year*) *capacity plant being taken as the economic size in the present conditions in India. The units with smaller plants would, therefore, do well to try to expand at least to this economic size. There are no less than* 31 *factories i.e., about* 60 *per cent of the total units in the industry—that fall in this category. We suggest that applications for expansion from these units to reach the level of the economic size of* 1,200 *tonnes per day should be encouraged and considered sympathetically by the Government in relaxation of the present restrictions, legal or otherwise, if any.*

11.6. Even though plants of 1,200 tonnes per day *may* be considered *all right* at present we must not rest content with that and must look ahead. According to "The Cement Industry in Japan 1970" published by the Cement Association of Japan there are, for example, no less than 21 plants (including two grinding plants) of over one million tons capacity each out of a total of 64 plants in that country. The trend is to go in for still higher capacity plants to take maximum advantage of economies of scale. *We should also, therefore, gradually plan for bigger size plants and equipment required therefor.* The remarks of Task Force No. V are relevant in this connection :

"However, during the Sixth Plan it is anticipated that the necessity for installing larger plants of the size of 2,000 tonnes per day will be strongly felt for the purpose of cutting down the cost of production and to keep abreast of the international practices. It is, therefore, suggested that during the Fifth Plan efforts should be directed towards development of suitable designs of equipment that would make transportation

by road and rail possible as well as development of suitable field welding techniques". *We agree with the approach suggested by the Task Force and commend it for the consideration of the Government.*

11.7. *Even though the normal trend should be to have plants of bigger and bigger size, it does not obviate the necessity of having to put up small plants in special circumstances, geographical or otherwise where plants of bigger size may not be that appropriate.* For instance, in the highly regions or areas wich are difficult of access there may not be adequate transport facilities for transporting large size kilns. Moreover in such places demand may be relatively small but transport of cement from elsewhere quite expensive on account of the freight and other transport difficulties involved. *It will be in the overall national interest to locate even smaller plants at such places provided adequate limestone deposits are within easy reach. This approach will help not only to correct regional imbalances but will also cut down unnecessary long rail haulage and heavy transport costs.*

12. Licensing Policy.

12.1. In its 1961 Report the Commission observed—"There is an urgent need for licensing additional capacity for cement manufacture and also for taking active steps to ensure that such capacity is actually installed and commissioned progressively by 1964" (Paragraph 7.4). We understand from the Ministry of Industrial Development that sui table action in the light of the above observations was taken. The licensed capacity of the industry rose from 9.47 million tonnes during 1961-62 to 12 million tonnes during 1965-66. As on 1-9-1973 the licensed capacity has further gone up to 19.76 million tonnes.

12.2. Taking into consideration the demand for cement prevailing in 1961 and the likely shortage which might occur in future and also the time that is taken for establishing a cement plant from the time of placing firm orders till its completion, the capital resources involved in setting up a new plant and expanding the existing plant etc., the Commission in its 1961 Report also observed—"Government should adopt a flexible policy as regards licensing of additional capacity for cement and ensure that established producers having resources and know-how are not discouraged or

prevented from implementing their schemes of establishing new cement units or adding to existing capacity". (Paragraph 7.4) On this, the Government in pararaph 7 of their Resolution No. Cem-8(27)/61 dated 31st October, 1961 clarified that their policy for licensing additional capacity for production of cement was calculated to encourage new entrants to the Cement industry but was not intended to rule out expansion by the then existing units.

12.3. **Statutory provisions relating to licensing**

12.3.1 The cement industry remained exempt from the licensing provisions of the Industries (Development & Regulation) Act, 1951, during the period from 13-5-1966 to 19-2-1970 when it was again brought under licensing. Control on the price and distribution of cement is exercised through the Cement Control Order 1967 made under Section 18(g) of the Industries (Development & Regulation) Act, 1951. Cement has also been declared as an "essential commodity" under the Essential Commodities Act. 1955. The manufacture or storage or sale of sub-standard cement have been prohibited by the Cement (Quality Control) Order, 1962 issued under Section 3 of the Essential Commodities Act of 1955.

12.3.2. We understand from the Ministry of Industrial Development that although cement industry is not considered a "core" industry, it falls under the heavy investment sector. Applications for grant of licences for setting up of cement plants are considered on merits subject to the provisions of the Monopolies & Restrictive Trade Practices Act (M.R. T.P. Act). The Ministry has recently informed us that applications from larger houses which were rejected by Government at an earlier stage have been now reconsidered and letters of intent were being issued in their cases. We have also been informed by the Ministry of Industrial Development that it has written to the State Governments whose Corporations have been granted letters of intent/licences for putting up cement plants to pursue the projects expeditiously and to others to explore the possibility of putting up cement plants, promising also financial, managerial and other technical assitance as may be required by them.

12.3.3. As stated elsewhere, the anticipated demand for cement expected by the end of Fifth Plan period, is of the order of 28 million tonnes. To meet this demand licensed capacity to the extent of at least 33 million tonnes has to be built up on the assumption of 85 per cent capacity utilisation. Thus, in addition to the present capacity of 19.76 million tonnes, an additional capacity to the extent of 13 million tonnes has to be set up by the end of the Fifth Plan period. The Ministry has informed us that in order to achieve this target various steps have been or are proposed to be taken. Import of heavy castings has been agreed to in certain cases. It is also proposed to set up a special implementation cell to review the progress of each individual case and take remedial action in consutlation with the licensee to enable pursuing of the implementation of the expansion programme.

12.3.4. In the course of our inquiry the C.M.A. was requested to indicate whether the licensing and other Governmental policies have helped the growth of the industry or not. The C.M.A. in this context has stated—"The purpose of bringing any industry under the licensing system is essentially to ensure its planned growth—growth as required by the national priorities. The licensing and other governmental policies relating to price fixation in the case of cement industry have failed to achieve the desired result. They have hampered rather than helped the growth of this vital industry. Some time ago, Government had decided to encourage only the new comers. Many such licensees, however, failed to establish new capacities with the result that a wide gap was created between the availability and demand for cement, as no new capacities came into being". The C.M.A. is also of the view that "Had there been no licensing for the industry the growth could have been faster. This is supported by the experience of the industry as would be evident from the fact that during the de-licensing period (1966-70), 4.3 million tonnes of additional capacity was set up". The C.M.A. is critical of the application of the MRTP Act and has observed—"Another hurdle is the application of the Monopolies & Restrictive Trade Practices Act under which the established companies having vast technical know-how and experience are impeded from setting up new capacities in the industry".

12.4 As observed earlier in para 12.3.2. there has been a recent change in the policy of the Government in the matter of sanctioning projects for setting up of additional capacity, both by expansion of the existing units as well as by setting up of new units. *Our immediate concern should be increased production in the shortest possible time, and therefore those, whether in the public sector or the private sector, who have the necessary expertise and can raise the necessary finance should be encouraged in every practical way to give concrete shape to this objective. This pragmatic approach would go a long way towards boosting the output of cement in the coming years and fulfilling the target set for the Fifth Plan Period.*

13. Expansion

13.1. As already mentioned the licensed capacity of the industry as on 1-9-1973 was 19.76 million tonnes. We have been informed by the Ministry of Industrial Development that schemes for further additions to the licensed capacity to the extent of 13.297 million tonnes have been sanctioned. A statement showing the existing capacity and the schemes sanctioned for expansion State-wise and Zone-wise is at Appendix 13. If all the schemes materialise as scheduled, the additional capacity of 13.297 million tonnes will raise the overall capacity of the industry by the end of Fifth Plan period to a little over 33 million tonnes. The zone-wise position of the existing capacity and the likely capacity at the end of 1978-79 is given below:—

TABLE 13.1

Comparison of capacity in 1973 *and by* 1978-79

(In Million tonnes)

Zones	1973	1978-79
North	3.438	8.686
East	3.289	5.987
West	5.610	8.470
South	7.423	9.914
TOTAL	19.760	33.057

Out of the additional capacity of 13.297 million tonnes 5.086 million tonnes will be in the public sector and 8.211 million tonnes in the private sector.

13.2. The break-down of the additional capacity of 13.297 million tonnes is as follows :—

TABLE 13.2

Nature of licences issued

Nature of licences	Capacity (million tonnes)	No. of units
Industrial licences	1.178	5
C.O.B.	2.582	6
Letter of Intent	9.537	34

It will be seen that the major portion of the additional capacity (9.537 million tonnes) is still in the "Letter of Intent" stage, and the actual setting up of the relevant cement plants is a long way off. We hope the special implementation cell referred to in paragraph 12.3.3. has been set up by the Ministry of Industrial Development. *In any case with or without such a cell it is necessary that the Government should keep the position under close watch to ensure that difficulties of implementation if any, are promptly attended to and the intending parties enabled to translate into concrete action the "letters of intent" issued to them.*

13.3. Public Sector

13.3.1. Cement Corporation of India

13.3.1.1. In the public sector the Cement Corporation of India Ltd., which is a Government of India undertaking was formed in 1965 and is intended to play a major role in the development of the cement industry. Its first cement factory was commissioned for commercial production in July, 1970 at Mandhar with an annual installed capacity of 200 thousand tonnes. Formal sanction has been issued to it for

extending its capacity by 180 thousand tonnes based on the utilisation of Bhilai slag. Its second unit at Kurkunta in Mysore with an annual capacity of 200 thousand tonnes came into operation during the second half of 1972. The third unit of the capacity of 200 thousand tonnes is stated to the under construction at Bokajan (Assam). The Corporation has further informed us that the Government has also approved the setting up of a unit of an annual capacity of 200 thousand tonnes at Rajban (Paonta) in Himachal Pradesh.

13.3.1.2. We also understand that the Corporation has been issued letters of intent for the projects, the details of which are as follows:—

TABLE 13.3

Future plans of the Cement Corporation

Sl. No.	Location of proposed project	Capacity ('000 Tonnes)
(i)	Adilabad (Andhra Pradesh)	400
(ii)	Akaltara (Madhya Pradesh)	600 (Slag)
(iii)	Baruwala (Dehra Dun, U.P.)	200
(iv)	Neemuch (Madhya Pradesh)	400
(v)	Tandur (Andhra Pradesh)	400
(vi)	Yerranguntala (Andhra Pradesh) . . .	400

It is also planning to establish a unit at Pagli (Bhutan) in collaboration with the Royal Government of Bhutan.

13.3.2. **State Governments**

Apart from the Units owned by the Cement Corporation of India, there are seven other cement factories in the public

sector. They are owned by six State Governments, details of which are as under:

(i)	Alangulam .	Tamil Nadu Industrial Development Corporation.
(ii)	Bargarh . .	The Industrial Development Corporation of Orissa.
(iii)	Bhadravati .	Mysore Iron & Steel Co. Ltd.
(iv)	Cherrapunji .	Assam Cements Ltd. (Meghalaya Govt.)
(v)	Churk . .	Uttar Pradesh Cement Corporation.
(vi)	Dalla . .	Do.
(vii)	Wuyan . .	J. & K. Minerals Ltd.

Thus the total capacity as on 1-9-1973 in the public sector including the Cement Corporation of India was 2,307 thousand tonnes out of 19,760 thousand tonnes, i.e. about 12 per cent of the total capacity in the industry.

सत्यमेव जयते

CHAPTER IV

EXPORTS

14. Exports

14.1. In the letter of the Government of India referring the present inquiry to us, it has been stated that the basic objective is to ensure the development of the cement industry in a measure and in a manner that would enable the requirements (including exports) to be met adequately at a minimum cost to the economy (*vide* paragraph 2.3). With a view to earn foreign exchange, small quantities of cement are being exported even though the indigenous production is inadequate to meet the domestic demand itself. The export of cement originally started during the lean years when the domestic demand was low. At that time no subsidies were being given by Government on cement exports. In 1967 when the distribution and sale of cement in India were being regulated by the industry through C.A.C.O., a pilot scheme was introduced to export cement to the Gulf countries. Such exports were not compulsory and were made purely on a voluntary basis. According to the scheme evolved by the industry, the exporting units were required to bear the loss of about Rs. 5.00 per tonne. The balance of the loss on exports was to be shared by all the producers *pro rata* to their internal despatches.

14.2. With effect from 1st April 1969 exports are being canalised through the S.T.C. The S.T.C. has informed us that at the beginning of each financial year, the quantity to be exported during the coming year is earmarked in consultation with the Cement Controller and the cement producers, after taking into consideration the production and demand estimates. On the basis of export quantities so earmarked the S.T.C. and the cement exporting manufacturers conclude export contracts under the joint marketing arrangements.

14.3. We understand from the S.T.C. that the cement which is exported conforms to the British Standard Speci-

fication B.S.S. 12: 1958. According to the S.T.C., "The main impediments in exports have been the inadequate availability of cement conforming to this quality. The exports are economical only from factories situated within short distances from the ports in the country; therefore, the production capacities of such factories play a great role in augmenting our exports. With this in view, while considering future expansion or putting up of new plants, it may be desirable to sanction additional capacities at places nearer to the ports."

14.4. Some of the cement factories which are advantageously situated for the purposes of export are (a) Dwarka Cement Factory of A.C.C., (b) Sikka Factory of Digvijay Cement Co., (c) Ranavav Factory of Saurashtra Cements and (d) Talaiyuthu Factory of India Cements Ltd.

14.5. With a view to encouraging exports, Government provides the following export incentives to exporters of cement :—

(a) Replenishment of licence to the extent of 15 per cent of f.o.b. value against which only import of sack kraft paper is allowed. This sack kraft paper is converted into paper bags which are ultimately used for packing cement for export.

(b) Cash subsidy to the extent of 25 per cent of f.o.b. value.

(c) Subsidy from the Cement Regulation Account maintained by the Cement Controller to the extent of Rs. 19.25 per tonne, plus transport subsidy from the factory to the port.

The S.T.C. is of the opinion that "while these export incentives have gone a long way in promoting the exports, it is essential to maintain the existing level of incentives for keeping our export prices internationally competitive."

14.6. A statement showing country-wise exports of cement and clinker from 1968-69 to 1973-74 furnished by the S.T.C.

is given at Appendix 14. A summary of the statement is given in the Table below :

TABLE 14.1

Cement and clinker exports between 1968-69 *and* 1973-74. (*April-December*)

(Quantity—thousand tonnes)
(Value—Rs. in lakhs)

Years	Cement		Clinker	
	Quantity	Value	Quantity	Value
1968-69 . . .	232	288.21	42	45.97
1969-70 . . .	115	136.46	11	11.58
1970-71 . . .	184	240.40	22	26.25
1971-72 . . .	199	253.44	37	35.18
1972-73 . . .	198	270.74	..	..
1973-74 (April-December)	114	151.41	..	..

Source : State Trading Corporation.

14.7. We understand from the S.T.C. that they are currently working on an export target of 350 thousand tonnes and are making efforts to achieve a target of 500 thousand tonnes a year.

14.8. According to the S.T.C. the average f.o.b. price realisation from exports of cement is about Rs. 91.00 per tonne. This, together with export assistance was considered to be fairly competitive in the export market with marginal losses/gains. With the increase in domestic prices consequent to our Interim Report, the gap between the above f.o.b. price and domestic price has become much wider. The

S.T.C. feels that "if the internal prices of cement are increased to that extent our export prices will become incompetitive."

14.9. During the course of the public inquiry, some of the units which export cement stated that while the other producers who do not export cement, are getting retention price of Rs. 100.00 per tonne of cement for sale in the internal market (this price has increased to Rs. 110 per tonne as a result of the recommendations in our Interim Report), they are not in a position to realise even that price since the cost of the cement, which is exported, involves additional outlay. During the discussions in the public inquiry the estimated loss on account of the above, mentioned by the exporters, varied between Rs. 10 and Rs. 20 per tonne. It is stated that such additional expenditure is involved in the manufacture of cement to be exported since such cement has to conform to the B.S.S. Quality which is higher than the I.S.S. Quality required for production of cement for domestic consumption. Such manufacturers have, therefore, pleaded for adequate compensation for the loss suffered by them on account of such exports. Alternatively, they have pleaded that such losses suffered by them in exporting cement should be equitably borne by all the units in the country manufacturing cement. Although these manufacturers have stated that they are incurring an additional expenditure of Rs. 10 to 20 per tonne for manufacturing cement conforming to B.S. Specifications, no precise data regarding this additional expenditure could be obtained from the costed units. In the absence of full details it has not been possible for us to arrive at any exact figure in regard to losses, if any, in export of cement alleged to have been incurred.

14.10. We had taken up this matter with the S.T.C. who stated that "the purchase price payable to the cement manufacturers is fixed after negotiations which has to be mutually acceptable. Obviously, manufacturers take into account their production costs and we take into account the expected export price." Regarding the additional cost or manufacture of B.S.S. quality cement, it has stated that "STC by itself has not gone into the costing of B.S.S. quality. However, last year the Cement Controller asked

D.G.T.D. to go into the additional cost involved on account of producing B.S.S. cement and according to D.G.T.D.'s estimate it was about Rs. 8 per tonne." We understand that at present there is no compulsion as such to export and that the exports are made on a voluntary basis to keep up the foothold in the export market. As exports, whether voluntary or under compulsion, are in the national interest too, S.T.C. has been rendering some assistance.

14.11. **Future Exports**

The target of five lakh tonnes annually by the end of the Fifth Plan which the S.T.C. is planning to achieve as mentioned in para 14.7, is only a very insignificant proporation of the domestic demand or consumption during the corresponding period. From a different angle, however, it can also be argued that the portion meant for export is not insignificant when it is looked at from the angle of the unsatisfied demand in the country. We have also obtained Government's estimates of the likely exports for the coming few years. In this connection the Ministry of Industrial Development have informed us that "as the production of cement in the country is not enough to meet the demand, it has been decided, as a matter of policy that no export of cement should be allowed from the country except where it is necessary to do so in pursuance of treaty obligations such as supply of cement to Nepal, Bhutan, Sikkim or to Bangla Desh in consideration of overall political/trade relations with that country." We understand that the quantity of cement to be exported to Bangla Desh may range between 100 thousand and 150 thousand tonnes, whereas the exports to the remaining three countries may not exceed 100 thousand tonnes. Thus the total quantity of cement that may be exported in the coming years to these four countries is not likely to exceed 250 thousand tonnes per annum. We are also informed by the Government that "no projections could be given at the present moment about any export to be made beyond the period September 1974". It is however, stated that in the case of Bangla Desh some further quantity may have to be exported to that country in accordance with the decisions which the Government may take from time to time.

14.12. Though there may be a temporary restriction on exports on account of the prevailing shortage for domestic consumption, the Government's objective is "to ensure the development of the industry in a measure and in a manner that would enable the requirement, including exports to be met adequately at a minimum cost to the economy". We have, therefore, to take in integrated view of the problem of exports and domestic consumption. *We feel that even though there is at present a shortage of cement for domestic consumption, export of cement should not be discouraged, since it is necessary to keep our foothold in the export market as a long term policy.* The need for exports of various commodities including cement is likely to become all the greater in the context of the present economic crisis caused by the steep upward revision of prices of imported crude oil and the consequent difficulties it has created in the foreign exchange position of the country. It is quite on the cards that the Government may even find it necessary to curb domestic consumption to be able to export cement to the maximum extent possible.

14.13. *There are adequate raw material resources available in the country both to meet the domestic demand as well as the demand for exports. Our aim should be to steep up productive capacity and production to meet both these demands. In any case, in order to build up adequate exportable surplus, sufficient licensed capacity at the port areas or towns is needed. This can be achieved by allowing expansion of the existing units as well as by encouraging setting up of new units in such areas. In this connection the Cement Corporation of India which is a public sector undertaking can also play a significant role.*

14.14. The incentives that are currently available to the exporters of cement have been indicated in para 14.5. During the public inquiry the exporters had argued that the present quantum of export assistance was not adequate. *In the absence of full information about the export policy that the Government may find it necessary to adopt in the rapidly changing circumstances, it is not possible for us to suggest in what form export incentives should be given and what their quantum should be. We can only make a general observation that the position should be kept under constant review to ensure that the export incentives are adjusted from time to time to ensure that the exporters are not put to any loss and that, on the other hand, if possible,*

they have a slight edge over others to make them re-double their efforts to produce more for export. In the rapidly changing situation created by the oil crisis, it is also possible that the international prices may become much higher than the retention price for cement for domestic consumption and exports may become quite lucrative for the industry instead of being a source of loss. It that happens the Government, while naturally encouraging exports to the maximum extent possible, should also ensure that it mops up most of such fortuitious profits by appropriate measures.



CHAPTER V

CONSUMPTION AND FUTURE ESTIMATES OF DEMAND

15. Consumption

15.1. The zone-wise comparison of actual production and actual consumption as represented by the despatcthes of cement for the years 1968 to 1972 and for 1973 (January-September) is given in the Table below :

TABLE 15.1

Zone-wise production and Consumption of Cement during 1968 *to* 1972 *and* 1973 (*January-September*)

(In '000 Tonnes)

	North	East	West	South	Total
1968					
Production .	2,214	2,249	3,249	4,180	11,892
Consumption	3,251	2,504	2,836	2,969	11,560
1969					
Production .	2,384	2,414	3,849	4,929	13,576
Consumption	3,678	2,839	3,477	3,361	13,355
1970					
Production .	2,264	2,433	3,868	5,347	13,912
Consumption	3,982	2,713	3,474	3,455	13,624
1971					
Production .	2,322	2,335	4,261	5,986	14,904
Consumption	4,107	2,438	3,945	4,052	14,542

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	North	East	West	South	Total
1972					
Production .	2,723	2,491	4,461	6,038	15,713
Consumption	4,403	2,776	4,187	4,121	15,487
1973 (Jan.-Sept-)					
Production .	1,861	1,924	3,232	3,876	10,893
Consumption	3,082	2,032	2,723	2,688	10,525

Source: Cement Controller

15.2. The figures in the above Table showthat in the Eastern and Northern zones the production was always short of consumption implying that cement had to be moved to these zones from the other surplus zones. The above Table also shows that the production went up from 11.9 million tonnes in 1968 to 15.7 million tonnes in 1972. The corresponding consumption also went up from 11.6 million tonnes in 1968 to 15.5 million tonnes in 1972. The differentce between the average production and average consumption each year during the years from 1968 to 1972 and also for the first nine months of the year 1973 is about 0.30 million tonnes. This figures indicates that on an overall basis practically whatever was produced was despatched; the marginal difference between the two figures represents what presumably could not be lifted for despatch for various reasons. *It must, however, be stressed that the consumption was necessarily restricted during the above period on account of the low volume of production. Actually during the recent years the demand has always far outstripped the supply creating packets of shortages in the country.*

15.3. Gaps between Demand and Production in 1972, 1973 and 1974

15.3.1. It is common knowledge that cement has been in short supply for some time past. On the basis of the figures furnished by the Cement Controller, we have made an

attempt to estimate the gap between demand and production during the years 1972, 1973 and 1974. A statement showing the details of the estimates of demand and estimates as well as actual production on the basis of the figures furnished by the Cement Controller, is set out below:

TABLE 15.2

Comparison of the gaps between the estimated demand and estimated production and the corresponding gaps according to estimated demand and actual production in 1972-1973 *and* 1974.

(In thousand tonnes)

Year		Demand	Production	Capacity utilisation	Gap (3—2)
(1)		(2)	(3)	(4)	(5)
1972	Estimates .	16,743	16,793	89	(+)50
	Actuals . .	..	15,713	80	(—)1,030
1973	Estimates .	18,874	15,031	78	(—) 3,843
	Actuals . .	..	14,523*	74	(—)4,351
1974	Estimates .	21,268	18,158	94	(—)3,110
	Actuals . .	..	N.A.	..	N.A.

*Projected by us on the basis of the nine months' production of 1973 supplied by the Cement Controller.

Source : Compiled from the Cement Controller's information.

For the year 1972, the Cement Controller estimated a demand of 16743 thousand tonnes and production of 16793 thousand tonnes resulting in a surplus of 50 thousand tonnes. These estimates were made on the basis of overall capacity utilisation of 89 per cent. However, the actual capacity utilisation for the year 1972 worked out to 80 per cent and as a result, actual production in that year amounted to 15713 thousand tonnes only leaving a deficit of 1030 thousand tonnes. For the

year 1973, the Cement Controller has estimated a demand of 18874 thousand tonnes. On the basis of an estimated capacity utilisation of 78 per cent, he has estimated the production at 15031 thousand tonnes. On this basis, the estimated gap for 1973 works out to 3843 thousand tonnes. According to the actual figures of production supplied to us by the Cement Controller for the first nine months of the year 1973, the actual capacity utilisation dropped to 74 per cent. In order to assess the position for the full year 1973, we have projected the actual figures for nine months to 12 months. On this basis, the gap between demand (18874 thousand) and production (14523 thousand) during 1973 works out to 4351 thousand tonnes.

15.3.2. *The above details show that for both the years* 1972 *and* 1973 *the actual capacity utilisation went wide off the mark as compared to the estimates made by the Cement Controller. This indicates that there are a number of imponderables which it is difficult to foresee with any exactitude and which lead to the estimates already made going astray. For the year* 1974 *the Cement Controller has estimated a demand of* 21268 *thousand tonnes* and production of 18158 thousand tonnes on the basis of an estimate of 94 per cent utilisation of capacity. He thus expects a gap of 3110 thousand tonnes for the year 1974. *If past experience is any guide, these estimates for* 1974 *may also prove optimistic. Chances are that the average utilisation of capacity would be lower and consequently the gap between demand and supply higher than that estimated by the Cement Controller. This is because external constraints such as difficulties of supply of coal, power, wagons etc., are likely to persist for some time.*

16. Capacity utilisation during the Fifth Plan period.

16.1. Before we go into the estimates of demand, it would be necessary to deal with the issue relating to the capacity utilisation to be assumed for future. According to the C.M.A. the utilisation of capacity for some years to come is not likely to go beyond 82 per cent. In connection with this submission, the C.M.A. has laid stress on the fact that the capacity utilisation obtaining in some of the advanced countries during

the year 1970 and 1971 was 82 to 83 per cent as per details given in the Table below :

TABLE 16.1

Utilisation of Production Capacity in selected countries

Name of the country	Rate of utilisation %	
	1970	1971
(i) EEC Countries	90.2	85.7
(ii) EFTA Countries	82.9	86.6
(iii) Other European Member Countries .	81.9	80.6
(iv) Total European Member Countries .	87.1	85.0
(v) North America	83.6	89.2
(vi) Japan	73.5	68.0
(vii) Weighted average of (i to vi above) .	83.4	82.1

Source : The Cement Industry Statistics, 1971, Trend 1972, published by the Organisation for Economic Co-operation and Development. (Presented by the President of C.M.A. during the public inquiry).

It is not possible for us to make any observations on the capacity utilisation in the above countries because we are not aware of the circumstances under which the cement industry has been operating there. For example, it is not known whether the reasons for utilisation of capacity in those countries being 82 to 83 per cent are similar and comparable with the various external constraints obtaining in India. We are also not aware whether the two years 1970 and 1971 which have been chosen by the C.M.A. for the purposes of comparison were normal years nor are we aware of the position of capacity utilisation obtaining in those countries in the years prior to 1970 and 1971 and in the post-1971 years which would enable us to judge as to whether the performance in these two years can be considered as normal or otherwise. It may well be, that the

reason for low utilization of capacity in these countries is, *inter alia*, because their installed capacities may be much higher than what the demand requires. It cannot obviously be on account of technological reasons. We were informed in the course of the public inquiry that technically it is possible to go up to 94 to 95 per cent capacity utilization in India. The position in the advanced countries is also likely to be similar if not better. *It would, therefore, be safer for us in this respect to make our own assessment of capacity utilisation in India rather than base our conclusions on a comparison with the situation obtaining in foreign countries.*

16.2. In connection with the examination of the issue of the assessment of capacity utilisation, it would be useful to recapitulate the performance of the cement industry during the past 20 years. The overall annual utilisation of capacity since the year 1954 has been as follows:

TABLE 16.2

Overall capacity utilisation between 1954 *and* 1973

(In million Tonnes)

Year	Capacity	Production	Utilisation of Capacity
1	2	3	4
			(%)
1954	4.45	4.40	90.9
1955	4.90	4.47	91.0
1956	5.96	4.93	82.6
1957	6.44	5.60	87.0
1958	7.57	6.07	80.2
1959	8.35	6.83	81.7
1960	8.65	7.84	90.5

1	2	3	4
			(%)
1961	9.47	8.25	87.9
1962	9.72	8.58	90.9
1963	10.12	9.38	92.5
1964	10.77	9.73	90.0
1965	11.69	10.65	91.0
1966	12.58	11.14	89.0
1967	12.78	11.36	89.0
1968	14.76	11.94	81.0
1969	15.60	13.62	88.0
1970	17.36	13.96	80.0
1971	19.39	14.93	77.0
1972	19.76	15.71	79.7
1973	19.76	14.52*	73.7

*Estimated by us on the basis of nine months production.

Source: Report of the Task Force.

16.3. The above details show that *in the past* 20 *years, the capacity utilisation exceeded* 90.0 *per cent in seven years, varied between* 80 *and* 89 *per cent in* 10 *years and was less than* 80 *per cent in only three years. The fact that the average capacity utilisation exceeded* 90 *per cent in seven years out of the last* 20 *years is significant.* An analysis of the Table 10.3 (*vide* paragraph 10.5) shows that even during the years 1970 to 1973 when the average utilization of capacity has been 80 per cent or less there were a number of units which attained capacity utilisation of more than 100 per cent, even though the number of such units has been declining because of certain external constraints. The Table 10.3 also shows that out of 51 units therein the

number of units which attained more than 90 per cent capacity utilization were 21, 19, 17 and 12 respectively in the years 1970, 1971, 1972 and 1973 (January-September). It is obvious that if the external constraints—coal and wagon shortages, power cuts, etc., ease, the cement industry in India should be able to work to more than 90 per cent capacity utilization.

16.4. It is, however, an admitted fact that during the last few years the overall utilization of capacity has been showing a declining trend. The factors which affected cement production during the years from 1970 to 1973 (January-September) have been shown in Table 10.4 (*vide* paragraph 10.6).

16.5. Though under normal conditions it would have been reasonable to assume capacity utilization at 90 per cent or even more for the future, we feel that it would not be realistic to do so in view of the circumstances which have been prevailing for the past couple of years and are still prevailing. At the same time we have no reason to assume that the picture will continue to be gloomy. With the various steps that the Government are taking we hope the position will improve appreciably. We, therefore, feel that the estimate of 82 per cent made by the C.M.A. is on the conservative side. On balance and taking into consideration the various circumstances already discussed, *we are of the view that an estimate of capacity utilization of* 85 *per cent on the average for the Fifth Plan period would be neither too optimistic nor too pessimistic and could be considered as reasonable. We have accordingly adopted* 85 *per cent capacity utilisation while making our projections of costs for the future.* We find that a similar figure has been adopted by the Task Force for making their calculations of the future estimates of production during the Fifth Plan period. *The* 85 *per cent capacity utilisation is the minimum that the industry should aim at, inspite of the external constraints, by introducing all possible measures that make for efficiency. If the utilization improves to more than* 85 *per cent, it should itself be an incentive for still higher production and it is with that end in view, that we are not suggesting any readjustment of retaintion price downwards if the capacity utilisation goes above* 85 *per cent.*

17. Estimates of Demand for the Fifth Plan period.

17.1. The Task Force for Cement Industry has estimated the demand for cement by the end of the Fifth Plan period at 28 million tonnes (1978-79). In arriving at this estimate the estimate of demand for 1973-74 has been placed at 19 million tonnes and an annual growth rate of eight per cent has been assumed. On the basis of a capacity utilisation of 85 per cent on an average during the Fifth Plan period, the estimate of capacity to be built up to meet this demand has been made at 33 million tonnes by the end of the Fifth Plan period. The estimate of demand of 28 million tonnes includes 0.50 million tonnes for export.

17.2. The Task Force on Cement which made the above estimates of demand comprised of representatives of the C.M.A., Senior Officers from technical departments of Government of India such as D.G.T.D., Cement Controller and the Officers of the Planning Commission and the Cement Corporation of India. The estimates made by such a representative body must be given due weight. *While making its estimate, the Task Force had considered alternative methods of approach, and various estimates of demand before finally coming to the estimate of 28 million tonnes. We see no reason to differ from the estimate made by such a responsible body. We have, therefore, adopted this figure as our estimate of demand by the end of the Fifth Plan period.*

17.3. *The purpose of the entire exercise of making an estimate of demand for the future is to examine the crucial question of what efforts are necessary for meeting such a demand.* We cannot lose sight of the fact that the cement industry has to face in the coming years various external constraints such as shortage of wagons, coal and power etc. These external constraints as well as other problems facing the industry are bound to affect production in the coming years and *the task of raising the production from the present level of about 15 million tonnes to 28 million tonnes by the end of the Fifth Plan period is going to be a difficult one to tackle. We have no doubt that Government is fully aware of the stupendous nature of this task.*

17.4. *We have suggested in the body of this Report the various measures required for the quick expansion of this industry. Apart*

from the new pricing policy, rehabilitation and expansion incentives these measures include liberal granting of licences for expansion and, setting up of the new units, incentives for utilization of supplementary raw materials such as slag and fly ash and encouragement for split location, facilities for import of machinery where delivery period of indigenous machinery is long etc. We are confident that these various suggestions would go a long way in augmenting the production of cement in the years to come.



CHAPTER VI

RAW MATERIALS

18. Raw materials

18.1. The principal raw materials required for the manufacture of cement are (i) limestone, (ii) clay and (iii) gypsum. Other calcareous materials such as sea sand, marl, shells etc., are also used in the place of limestone and other residuary clays such as laterites, shale etc., in the place of clay. There are also supplementary raw materials such as slag and fly ash. This topic is dealt with separately in a subsequent paragraph.

18.2. Limestone

18.2.1. Limestone is the basic raw material required for the manufacture of portland cement. Limestone deposits occur in most of the States. However, such deposits suitable for the manufacture of cement are not evenly distributed throughout the country. Most of the cement companies either own their limestone quarries or own such quarries on long term leases. Some of the factories use other calcareous materials in place of limestone. Shree Digvijay Cement Co. Ltd., uses sea sand and sand stones in addition to limestone. Dwarka Factory of the A.C.C. group utilises marl (limestone sea sand). The Sindri Factory of the A.C.C. group uses calcium carbonate sludge supplied by the Sindri Fertilizer Chemicals Ltd. and the Travancore Cement factory uses lime shells extracted from the Vembanad lake.

18.2.2. The Commission had in paragraph 17.5 of its 1961 Report recommended that the Council of Scientific & Industrial Research should publish complete information about all known deposits of limestone and their suitability for various industries so that it may be a valuable guide for the State Governments to ensure that their limestone deposits are properly utilised and also to help the industry to plan to location of new units.

The Ministry of Industrial Development has informed us that the Geological Survey of India has since brought out a publication furnishing information about known limestone (Cement grade) deposits.

18.2.3 According to the Report of the Task Force for the cement industry set up by the Planning Commission for the Fifth Plan, the requirements of limestone would be of the order of 39 million tonnes by 1978-79. The task Force however observed that "Although it is reported by the Geological Survey of India that the total reserves of cement grade limestone so far inventorised by them would be more than adequate on an overall basis to cater to practically any scale of demand, the lack of information about various limestone deposits at different regions and States has been an important contributing factor for casualty of a number of schemes. A concerted effort would therefore have be made to locate fresh deposits of cement grade limestone. Also in areas endowed with both cement and steel grade, limestone, the former should be released for use by the cement industry. Both the Geological Survey of India and the Cement Corporation of India would need to intensify their efforts in proving and qualifying fresh limestone deposits to supplement the individual efforts on the part of the manufacturers of cement and cement machinery, for the benefit of the dispersal of the industry thus reducing the burden on transport."

18.2.4. None of the producers of cement has complained about the shortage of limestone as such. The C.M.A. has observed that deposits of good quality limestone in the Northern regions are getting exhausted fast

leaving behind a large quantity of inferior quality limestone which could be utilised successfully only by adopting beneficiation process. In the opinion of the C.M.A. this will call for additional investment in the form of beneficiation plants besides the additional operational expenses on account of the necessity of using higher usage ratio of the order of 2.2 as against the normal 1.55 between limestone and clinker. Consequently, larger quantity of limestone would have to be mined and handled and transported than would have been the case if better quality limestone were available. Extra cost would also be incurred in handling the rejected quantity of inferior limestone. Some of the producers such as Panyam Cements, Rohtas Industries, Madras Cement, Ashoka Cement, Travancore Cement, Jaipur Udyog and Utttar Pradesh State Cement Corporation have also referred to the high cost of quarrying limestone on account of the poor quality of their quarries in regard to purity and calcium carbonate content, high over-burden ratio etc., necessitating selective mining, blending of high grade and low grade qualities, beneficiation etc.

18.2.5. **Transport of Limestone**

18.2.5.1. Apart from the cost of quarrying, expenditure has also to be incurred on the transport of materials from the quarries to the factory site. The distance from the quarries to the factory site has, therefore, an important bearing on the element of cost of limestone in the total conversion cost. The available information shows that most of the cement factories have more than one source of supply of limestone located at different distance ranges. A rough estimate of the disadvantage suffered by the various units

on account of transport charges can be made by categorising each of the sources according to certain ranges of distances in kilo metres between quarries and the factory site. A broad analysis of the sources of limestone for each factory is given in the following Table :

TABLE 18.1

Zone-wise grouping of cement factories according to the number of sources of limestone

Zones	Distribution of factories according to number of sources					Total
	One	Two	Three	Four	Five	
1	2	3	4	5	6	7
North . .	5	2	..	..	1	8
East . .	6	1	..	1	1	9
West . .	5	4	1	1	..	11
South . .	10	5	..	3	2	20
Total	26	12	1	5	4	8

(The above details do not include particulars relating to four units, namely Jammu & Kashmir unit located at Wuyan which has not replied to our questionnaire, Sindri unit which uses sludge and not limestone and the two grinding units located at Sewree (Bombay) and Ahmedabad owned by Shree Digvijay Cement Company).

The above Table indicates that there are 22 cement units which obtain their limestone from more than one source.

18.2.5.2. A Statement shownig the classification of the sources from which limestone is obtained by the various cement units according to certain range of distance is at Appendix 15. The details in the Appendix show that the

total number of sources of all the 48 cement units broadly works out to 93 as indicated below :

TABLE 18.2

Limestone sources Zonewise

Zone	No. of factories	No. of sources of limestone
North . . .	8	14
East . . .	9	17
West . . .	11	20
South . . .	20	42
TOTAL	48	93

18.2.5.3. The Railways follow the system of charging freight for transport on the telescopic method. Such telescopic rates charged by the Railways for transportation o limestone from the quarries to the factory site are as follows

TABLE 18.3

Railway freight rates for transport of limestone

(Rs. per tonne of limestone)

Wagon load of the following distance	1971 Classification 40	1-6-1973 Classification 42.5
1	2	3
1—40 . . .	7.00	7.30
41—45 . . .	7.30	7.70
46—50 . . .	7.70	8.00

TABLE 18.3—*contd.*

1	2	3
51—55 . . .	8.00	8.40
56—60 . . .	8.40	8.80
61—65 . . .	8.70	9.10
66—70 . . .	9.00	9.50
71—75 . . .	9.40	9.90
76—80 . . .	9.80	10.20
81—85 . . .	10.10	10.60
86—90 . . .	10.40	11.00
91—95 . . .	10.80	11.40
96—100 . .	11.10	11.70
101—200. . .	16.10	17.00
201—300 . .	20.70	21.90
301—500. . .	29.10	30.80
501—750 . .	38.90	41.20
751—1000 . .	48.10	51.00
1001—1500 . .	64.90	68.80
1501—2000 . .	79.30	84.10
2001—2500 . .	90.50	96.00

Source : Ministry of Railways (Railway Board).

18.2.5.4. Such of the factories as have to transport their limestone to their grinding units by rail the minimum expenditure involved as on 1-3-1974 would be Rs. 7.30 per tonne. (This rate is likely to go up by about 5 to 11 per cent depending upon the distance as a result of the Railway Budget for 1974-75). Actually where transport by rail is involved transport charges tend to rise still higher because such transport involves not only railway freight but also double handling charges first in carrying the limestone to the rail head for loading and again unloading it at the terminal for transport

to the factory. *The location of most of the factories (partially as a result of freight pooling) is, however, near their limestone quarries and as such the limestone is generally transported, mostly if not wholly, by road over the short distances involved. This will be clear from the fact that during the costed period the freight involed in the transport of limestone was very much less than the then prevailing railway freight of Rs. 7.00 per tonne in the case of not less than 36 units out of a total of 45 units for which figures are available.* It is necessary to have a closer look at the transportation charges of limestone in relation to the freight pooling system. We have dealt with this aspect in paragraph 33.7.5.

18.3. **Clay (Laterite, Bauxite, Sand Stone, Shale etc.)**

This is another raw material used either singly or in conjunction with limestone to correct the composition of the mixture in the manufacture of cement. From the information gathered we understand that the industry does not experience any major difficulty in the supply of clay and other residuary materials like laterite etc.

18.4. **Gypsum**

Gypsum is added to clinker to prevent too rapid setting of tricalcium aluminate, one of the components of cement. It roughly forms three to five per cent of cement manufactured. Gypsum is generally obtained from mines situated in Rajasthan and some areas of Tamil Nadu, namely, Udumalpet area and salt pans around Tuticorin. The salt works at Jamnagar also supply gypsum to cement units. It is also available to some extent as a by-product from the fertilizer industry. We understand from the producers and various Government departments that the cement industry does not experience any difficulty in obtaining its requirements of gypsum, although in most cases it has to be transported over a long distance. Many producers have, therefore, complained that on account of frequent restrictions imposed by the Railways on the movement of gypsum, they find it extremely difficult to obtain their requirements in time.

CHAPTER VII

SUPPLEMENTARY RAW MATERIALS

19.1. Under the terms of reference we have to examine the necessity for using supplementary raw materials such as slag and pozzolanic materials adequately, and the measures as would lead to fuller utilisation of such materials. This aspect of the present inquiry is dealt with below :

19. General

19.2. The main supplementary raw materials which are available in sufficient quantities and which could effectively supplement limestone in the manufacture of portland cement, are blast furnace slag and fly ash. The former is available as a waste product in the integrated steel plants and the disposal of this waste product has been posing for some time serious problem to the steel industry. The latter is an industrial waste of the thermal power stations and if this waste is not properly collected and disposed of, it causes a serious problem of air and water pollution. Besides, the cost of disposal of fly ash is quite substantial. There are various means to which these industrial wastes can be put to use. Here we are concerned with their possible use as supplementary raw materials in the production of cement.

20.1. Blast Furnace Slag (BFS)

20.1.1. In the operation of blast furnace in a steel plant, iron ore is reduced to iron by means of coke, and limestone and dolomite are used as flux. The ash from coke, the impurities from iron ore and the constituents of limestone or dolomite result in the formation of slag during the smelting operation. Thus slag forms an essential by-product in the blast furnace operation. The major constituents of slag are almost the same as in the case of portland cement clinker except that they are present in slag in different percentages. For the manufacture

20. Blast Furnace Slag & Slag Cement (PBFS).

of PBFS cement the slag should be made to retain its latent hydraulic properties. The PBFS cement is obtained by mixing portland cement clinker, gypsum and granulated blast furnace slag in suitable proportions and grinding the mixture to get a thorough and intimate mix between these constituents. The resultant product is a cement which has physical properties similar to those of OPC. The PBFS cement made in India conforms to IS: 455-1967. This Indian standard specification restricts the percentage of slag in PBFS cement between 25 per cent and 65 per cent. This cement is requ red to meet the same strength requirements as OPC. The percentage of the slag and the clinker to be used in the manufacture of PBFS cement would depend upon their quality. A judicious granulation of molten slag is necessary to increase its hydraulic property. The BFS is generally very hard to grind as compared to clinker and the fineness of slag plays an important role in the early strength development in concrete.

20.1.2. From the point of view of quality, there is hardly any difference between PBFS cement and OPC except in the matter of setting time. As regards the use to which PBFS cement can be put, it is understood that slag cement is useful when concreting large masses in hot weather, though it has to be cured very carefully if used for small sections in cold weather. It is somewhat more resistant to sulphates and peaty or slightly acidic water than OPC and is often specified for marine work. Tests have proved that the protection against corrosion of both normal reinforcing and pre-stressing steel embedded in concrete is of the same order in the case of PBFS cement as that of OPC. *The PBFS cement can be used as inter changeable cement with OPC for all types of jobs including pre-stressed concrete jobs. From all these considerations it appears that a good quality PBFS cement can almost wholly replace OPC on any construction job. As a matter of fact, certain additional benefits may accrue in terms of higher long term strength, reduced heat evolution and increased durability by the use of PBFS cement.*

20.1.3. We understand that when PBFS cement was first introduced in the market there was certain amount of

resistance to its use from some quarters mainly due to ignorance of characteristics of such cement. Steps were, however, taken by producers such as A.C.C. to educate the consumers and we understand that at present such consumer resistance is almost negligible. The A.C.C. have not received any complaints regarding the use or performance of PBFS cement; on the contrary, the A.C.C. have stated that enlightened Design and Construction Engineers make specific requests for PBFS cement or seek the advice of the A.C.C. occasionally on the selection of proper types of cement.

20.1.4. We understand from the D.G.T.D. that presently the main suppliers of BFS are Hindustan Steel Ltd., Bhilai, Rourkela and Durgapur, Indian Iron & Steel Co., Burnpur, Tata Iron & Steel Co. Ltd., Jamshedpur and Mysore Iron & Steel Ltd., Bhadravati. With the commissioning of Bokaro Steel Plant, the scope for BFS would further expand considerably. The availability of BFS from these sources depends upon the extent of production of steel.

20.1.5. For the manufacture of PBFS cement, we are told, it is absolutely essential to granulate slag to generate hydraulic properties. Therefore, granulation plants have to be installed in the vicinity of the steel manufacturing units. All other steel units, except Durgapur and Rourkela, have installed such granulation plants at their works. The Durgapur and Rourkela steel plants are also expected to make necessary provision for granulating slag in due course of time.

20.2. **Portland Blast Furnance Slag (PBFS) Cement**

20.2.1. Detailed estimates of future production of BFS as given in the Report of the Task Force are reproduced in Table 20.1 (next page). The Table indicates that availability of BFS is expected to be of the order of 12 million tonnes by 1978-79. The availability of granulated slag for production of PBFS cement is expected to increase from 1.15 million tonnes in 1972 to 8.95 million tonnes by 1978-89.

TABLE 20.1

Location of Steel and Cement factories & availability of Slag by 1978-79

(In million tonnes/Annum)

Sl. No.	Name of the steel plant	Estimated production by 1978-79 of B.F. Slag	Availability of granulated B.F. Slag.		Total	Cement Factories feasible to use the B.F. Slag.
			Present	Additional by 1978-79 expected		
1	2	3	4	5	6	7
1	Rourkela . . .	1.20	Nil	0.84	0.84	Rajgangpur, Akaltara* Jamul, Mandhar, Jhalda (Purulia)
2	Bhilai	2.60	0.70	0.70	1.40	
3	Durgapur . . .	1.00	Nil	0.70	0.70	
4	TISCO . . .	0.95	0.30	0.40	0.70	Khalari, Sindri, Chaibasa
5	IISCO	0.66	0.10	0.56	0.66	

TABLE 20.1—*Contd.*

1	2	3	4	5	6	7
6	Mysore Iron . . .	0.065	0.05	..	0.05	Shahabad, Kurkunta, Wadi, Bagalkot.
7	Vijayanagar (Hospet) .	1.50	Nil	1.00	1.00	Bugganipalli, Bhadravati, Ammasandra, Yerranguntla.
8	Bokaro . . .	2.60	Nil	2.60	2.60	Dalmianagar, Dalla, Churk, Japla, Khalari, Sindri
9	Visakhapatnam . .	1.50	Nil	1.00	1.00	
		12.075	1.15	7.80	8.95	

*Does not appear in the list of Licences issued as on 1-9-1973 supplied by the Ministry of Industrial Development. But the Cement Corporation is stated to have plans to set up a unit and submitted a feasibility report to Government in respect of this scheme.

Source : Task Force Report.

20.2.2. The available data show that at present there are 12 cement factories which are producing PBFS cement at varying quantities. Out of these, two units, namely Jamul unit of the A.C.C. and Mysore Iron & Steel Co. Ltd., exclusively manufacture PBFS cement. According to the D.G.T.D. Kymore unit of the A.C.C. and Orissa Cement Ltd., were permitted to produce PBFS cement during the delicensed period within their existing capacity. The unit-wise details of production of PBFS cement are given in the Table below:



TABLE 20.2

Production of PBFS Cement

('000 tonnes)

Name of the Unit	Production				
	1969	1970	1971	1972	1973 (Jan-Aug.)
1	2	3	4	5	6
1. A.C.C. Ltd.					
(i) Chaibasa	274	395	356	432	298
(ii) Jamul	457	749	741	764	415
(iii) Kymore	27	1	..	..	Neg.
(iv) Sindri	..	8	125	179	42
2. Ashoka Cement Ltd.	..	..	63	72	53
3. Bagalkot Udyog Ltd.	7	..	19	81	56
4. Jaipur Udyog Ltd.	25	..	9	13	Neg.

1	2	3	4	5	6
5. Mysore Iron & Steel Co. Ltd. . . .	75	80	91	96	51
6. Orissa Cement Ltd.	1	24	28	9	9
7. Rohtas Industries Ltd.	..	..	48	47	52
8. Shree Digvijay Cement Co. Ltd., (Sewree) .	61	44	59	52	48
9. Sone Valley Portland Cement Ltd. . . .	..	..	..	..	110
TOTAL .	927	1,301	1,539	1,745	1,134

Source : Cement Controller's Publications.

20.2.3. It will be seen from the above Table that the production of PBFS cement has been showing an upward trend. The production has risen from 927 thousand tonnes in 1969 to 1745 thousand tonnes in 1972 and 1134 thousand tonnes in the first eight months of 1973.

20.2.4. Schemes for the establishment of additional capacity of the order of about 1.57 million tonnes for the production of PBFS cement are stated to have been approved by the Government as per details given below:



TABLE 20.3

Additional capacity for the establishment of PBFS Cement as on 1-9-1973.

Name of the Company	Location and State	Capacity ('000 tonnes)	Nature of licence and date of issue
1	2	3	4
1. Ashoka Cement Ltd. . . .	Chandrapura (Bihar)	236*	Letter of Intent (S.E.) 21-7-1973
2. Ashoka Cement Ltd. . . .	Burdwan (West Bengal)	260*	Letter of Intent (S.E) 6-8-1973
3. Cement Corporation of India . .	Mandhar (Madhya Pradesh)	180	Letter of Intent (S.E.) 29-1-1971
4. Durgapur Cement Works . .	Durgapur (West Bengal)	600	C.O.B. 4-10-1971
5. Mysore Iron & Steel Ltd. . .	Bhadravati (Mysore)	70	Letter of Intent (S.E.) 29-6-1973
6. Rohtas Industries Ltd. . . .	Dalmianagar (Bihar)	222	Letter of Intent (S.E.) 19-7-1973
	TOTAL . . .	1,568	

*Split Location.

Source : Ministry of Industrial Development.

Information as to the time by which the above capacity is likely to be established is not available. The Cement Corporation of India has also under consideration a proposal to set up a PBFS cement unit at Akaltara (Madhya Pradesh) with an annual capacity of six lakh tonnes.

20.2.5. In so far as the availability of granulated slag for production of BPFS Cement is concerned, there is no dearth of it. According to the figures given in the report of the Task Force, the anticipated rise in the output of steel in the Fifth Plan is expected to result in an additional production of 7.8 million tonnes of granulated slag raising its total availability to about 8.9 million tonnes by 1978-79. As already stated in paragraph 20.1.1 in the production of PBFS cement the two main ingredients namely clinker and slag are mixed in certain proportions. For instance, we understand that the A.C.C. group uses the proportion of about 2:1. We also understand that with this proportion, the quality of PBFS cement produced is such as not to produce any delecterious effects on steel reinforcements in R.C.C. work and hence such cement can be adopted for general use in both plain and reinforced work at par with OPC. On the basis of the mixture of clinker and granulated slag even in the proportion of 70:30 it would be possible to produce as much as 29 million tonnes of PBFS cement by the end of the fifth Plan period. This is more than the estimated demand of 28 million tonnes of cement by the end of the fifth Plan. This only shows the vast potentialities for developing this type of cement. However, the estimated demand for PBFS cement has been placed by the Task Force at only 6 million tonnes by the end of 1978-79. Even if the schemes planned for the establishment of additional capacity of 1.57 million tonnes of PBFS cement mentioned in paragraph 202.4 above materialise in time, total production from the existing units as well as from the new units may not go beyond three million tonnes. *It would therefore, appear that there is no likelihood of reaching the demand of six million tonnes estimated by the Tast Force in the coming years. Concerted efforts on the part of the concerned authorities as well as producers would therefore be needed to fill the gap between the estimated demand and the likely supply of PBFS cement.*

20.2.6. In the context of the acute shortage of cement the need for harnessing the existing potential field for the, production of BPFS cement has become all the more acute. Increase in the production of PBFS cement will also help to conserve the existing sources of high grade limestone.

20.2.7. In the course of the public inquiry the representatives of the industry pleaded that in order to encourage production of PBFS cement, it would be necessary to fix a differential price of PBFS cement and the benefit in the freight re-imbursement being granted at present to Digvijay Cement for the movement of clinker from the factory to the grinding units established on the basis of split location should be extended to movement of BFS as well. Some of the representatives of consumers also submitted that since BFS is an industrial waste and the cost of production of PBFS cement from such waste is lower as compared to the cost of production of OPC the consumers should be in a position to obtain PBFS cement at a price lower than that for OPC.

20.2.8. While examining the question of fixation of a differential price for PBFS cement, the issue regarding a fair price for BFS has to be examined in the first instance. We understand that at present the price of BFS being supplied to the various producers of PBFS cement is relatively not very high. However, with the expected increase in the demand for production of PBFS cement, there is a likelihood of the price of BFS also going up further in the future. *It is also quite likely that and unhealthy competition for obtaining BFS might develop between the various producers. Such a trend would be very undesirable and we feel that BFS should be made available to all producers of PBFS cement, at their plants, whether in the private or the public sector, at a uniform reasonable price. With a view to ensuring this, we feel that the question of fixing a uniform reasonable price for BFS to the various producers should be entrusted to a Co-ordinating Committee on which could be represented,* inter alia, *the steel plants, cement producers and the Cement Controllers. In order to encourage the use of BFS for the production of PBFS cement, it would be desirable for the price of BFS to be fixed at a level that would give the*

producer of PBFS cement an economic edge over the producer of portland cement.

20.2.9. If, as suggested above, the price of BFS is kept at a reasonably low level, the question of fixing a differential incentive price for PBFS cement would not arise. Besides, if a differential price were to be fixed for PBFS cement an impression might be created among the consumers that as compared to OPC, PBFS cement is some kind of inferior cement. This would discourage consumers from going in for the use of PBFS cement. *Taking an overall view of the matter therefore we are not in favour of a differential price being fixed for PBFS cement.* The question of freight reimbursement, at present available to the movement of clinker, being extended to the movement of BFS is dealt with separately in paragraph 33.7.3.

20.2.10. The fact that the demand for PBFS cement is not picking up in spite of its attendant benefits indicates that adequate measures to popularise its use among consumers of cement have not been taken so far. *We, therefore, suggest that suitable steps may be taken by the Government to carry out publicity which would result in popularising the use of PBFS cement as an alternative to the use of portland cement.* Further, since Government is the major consumer of cement it may consider the issue of instructions to all Government Departments to make maximum use of PBFS cement. The Government could also ensure that its indenting authorities specify the use of PBFS cement in all constructions where PBFS cement can safely replace OPC.

21.1. Fly Ash

21. Fly Ash and Portland Pozzolana Cement (PPC).

21.1.1. Apart from utilisation in the manufacture of PPC, the Task Force in its Report has mentioned that fly ash can also be used in its readily available form as a filler material in the reclamation of land and in mining, in making different types of bricks and other building unit, in the manufacture of sintered aggregates for making light weight concrete for different purposes, as

an aggregate in road construction and directly in the form of powder or slurry as an ingredient in the concrete mix at site. It is further stated that various Departments like the Ministry of Irrigation and Power, the Department of Miner and Metals, the Ministry of Transport, the Ministry of Works, Housing and Urban Development and National Building Organisation have been suitably advised by the Ministry of Industrial Development to issue necessary directives use of fly ash for the above mentioned purposes. In all such cases it is observed by the Task Force, that fly used directly in the form it is available and will therefore provide a ready and quick means of disposal while its use by the Cement Industry might be slow and protracted depending on the demand. Incidentally, it is fly ash in dry form only which is suitable for the production of PPC.

21.1.2. We understand that eight thermal power stations located at Delhi (C), Faridabad, Panki near Kanpur, Paras and Bhusaval in Maharashtra, Nellore in Andhra Pradesh, Basin Bridge in Tamil Nadu and Bandel in West Bengal were estimated to have produced four million tonnes of fly ash in 1970-71 both in dry and wet forms. It is estimated by the Cement Controller that with the expected increase in the consumption of fuel for power generation, the availability of fly ash is expected to reach a level of about eight million tonnes per annum during the next 10 years. Details of the immediate possibility of the use of dry fly ash available from the thermal power stations by the existing cement units are given in Appendix 16.

21.1.3. The Zone-wise availability of dry fly ash for production of PPC is summarised below:

TABLE 21.1

Availability of dry fly ash from the thermal power stations for the production of PPC

(In thousand tonnes)

Zone	Number of power stations	Annual output of fly ash	Quantity of clinker to be admixed	Annual production of PPC
1	2	3	4	5
North Zone . . .	3	93	372	465
West Zone . . .	2	140	560	700
South Zone . . .	2	46	184	230
East Zone . . .	1	130	520	650
TOTAL .	8	409	1,636	2,045

Source : Task Force Report.

The above Table shows that the existing thermal power station can supply about 0.41 million tonnes of dry fly ash per annum. On the assumption of 20 per cent ad-mixture of dry fly ash with clinker, it would therefore be possible to manufacture two million tonnes of PPC according to the I.S. Specification. This may result in saving as much as four lakh tonnes of OPC per annum during the Fifth Five Year Plan.

21.2. Portland Pozzolana Cement (PPC)

21.2.1. The PPC is mainly produced by utilising Fly Ash. Unitwise details of production of PPC (fly ash Cement) are given in the following Table.

TABLE 21.2

Production of Pozzolana Cement

(In thousand tonnes)

Name of Unit	Production				
	1969	1970	1971	1972	1973 (Jan-Aug.)
1. A.C.C. Ltd.					
(i) Bhupendra	..	5	3	6	3
(ii) Lakheri	6	4	1	..	..
(iii) Madhukarai	10	6	2	1	..
(iv) Wadi	..	1	Neg.	..	..
2. Bagalkot Udyog Ltd.	..	..	..	..	25
3. Dalmia Cement (Bharat) Ltd.	2	1	1	2	1
4. India Cements Ltd.	11	3	7	7	4
5. Orissa Cement Ltd.	137	60	12	2	Neg.
6. Sone Valley Portland Cement Ltd.	1	..	..	..	..
TOTAL	167	80	26	18	33

Source : Cement Controllers Publications.

The above Table reveals that there has been a steady decline in the production of PPC. This is mainly attributed by the producers to general aversion on the part of Government indentors and the general public towards the use of PPC.

21.2.2. Some of the consumers who have replied to our questionnaire have stated that while they use OPC for all purposes, a fair trial should be given for the cement manuafactured from fly ash. A few consumers have suggested that the entire building operations except in the case of bridges and other industrial structures should be executed with PPC. Some have suggested that the fact that the selling price of PPC is the same as in the case of OPC does not encourage the use of the former and steps must be taken to reduce the selling price of PPC.

21.2.3. PPC manufactured by blending OPC with natural or artificial pozzolana and intergrinding the mixture to the fineness of cement is stated to have the following advantages;

(i) Improved workability and less segregation in blending.

(ii) Increased resistance to the alkali-aggregate reaction and sulphate waters.

(iii) Increased water-tightness and reduced tendency for lime to separate.

(iv) Somewhat higher tensile strength and low heat of hydration and less cracking in mass concrete.

The only drawbacks reported are weaker resistance to corrosion, weathering and alternate freezing and thawing, though they can be countered by using suitable air entraining agents without any difficulty. It is also stated that there is loss of early comprehensive strength which is regained at a later stage. According to the Report of the Task Force on Cement Industry, the PPC has also been used in the manufacture of R.C.C. structures and there was evidence to show that this cement has no detrimental effect on steel used in reinforced structures.

21.2.4. The Task Force has compiled information about the existing cement plants which are in proximity to the thermal power stations and the same is already given in Appendix-16. The criterion adopted by the Task Force in listing these cement plants was that "the latter should be within the distance of 500 kilometers from the thermal power station itself". The study made by the Task Force records that the location of cement factories vis-a-vis the thermal power stations listed in the Table is such "that in most of the cases the thermal power stations are located in the direction of movement from cement production centres to big consumption centres. In other words, it implies that production of fly ash cement either by intergrinding by blending technique could be set up either in the vicinity of the thermal power station itself or in the neighbourhood of the cement consumption centre provided the thermal power station is close to the consumption centre as is the case with Delhi (C) Power Station".

21.2.5. For the last several years, the possibility of utilisation of fly ash for production of cement is being investigated by research institutions. It has also been the subject matter of discussion in various seminars and committees constituted under the Ministry of Irrigation and Power and in meetings of the Cement Panel. The Cement Panel had also the benefit of the technical appraisal of the utilisation of fly ash made by the Cement Research Institute of India. As a result of these various exercises, the Task Force for the cement industry has made a number of recommendations for the promotion of PPC as an alternative building material. Some of the recommendations made by the Task Force for the promotion of PPC as an alternative building material are given in Appendix 17.

21.2.6. The increasing availability of fly ash in the coming years as indicated in paragraph 21.1.3 offers good scope for promoting the production of PPC based on dry fly ash. The available evidence however shows that no appreciable progress has been made in the use of this type of cement. A lack of enthusiasm is found to exist among the entrepreneurs for the production of this type of cement. This may be

partly due to lack of wide publicity about the various advantages associated with its use, and partly due to the varying quality of fly ash available at the various thermal power stations. The variations in the quality of fly ash are stated to be partly due to the differing quality of coal utilised by the thermal power stations and partly to the load variation. The latter factor is stated to be the major factor responsible for the inconsistency in the quality of fly ash.

21.2.7. The following conclusions have been indicated in a paper entitled "Utilisation of Industrial Wastes—Potentials and Problems" published by the Cement Research Institute of India:—"The harmful impurities in fly ash are unburnt carbon and alkali. A high value of loss on ignition (unburnt carbon) in a fly ash significantly decreases the strength of the ultimate cement produced and a high content of alkali in fly ash may cause alkali-aggregate reaction with reactive aggregates. Unburnt carbon content in fly ash does not cause any difficulty when the waste is considered for using as raw material for manufacturing cement clinker. However when the alkalies content in fly ash is so high that the cement produced from it contains more than 0.6 per cent of total alkalies, use of fly ash may create problems, such as an adverse effect on the quality of clinker and difficulties in the operation of kilns. A technical appraisal made on the basis of several research investigations on the suitability of Indian fly ashes for the manufacture of Portland Pozzolana Cement has shown that those which conform to the requirements of IS: 3812—1966 for use as a Pozzolana can be considered suitable for the manufacture of Pozzolana Cement."

21.2.8 *In order to encourage the production of PPC with fly ash as the base it is essential to ensure the supply of good quality fly ash to the producers by the thermal power stations concerned. Steps would therefore be necessay on the part of such stations to ensure the production of good quality fly ash from the planing stage itself by adopting proper quality control measures. Another aspect where proper planning is necessary by the thermal power stations is regarding the collection of fly ash in dry form of requisite quality which should be acceptable to the cement industry and its proper storage.*

21.2.9. In the course of the public inquiry a section of the industry suggested that it may be necessary to give a suitable incentive to consumers by way of differential price to PPC to help promote its development.

21.2.10. We have considered the suggestion. *though we appreciate that some incentive is necessary to encourage the manufacture and use of PPC, we do not consider that fixing a lower differential price for such PPC is the proper remedy.* Fly ash is relatively very much cheaper than clinker. Even though the price of the PPC is the same as that of OPC, (thus ensuring a higher quantum of profit to the manufacturer) its manufacture continues to be insignificant. *The use of PPC is still in its infancy and it has to complete with OPC. If a differential price is fixed for PPC it is likely to act as a further damper to the producer to take up the production of this type of cement. With the lowering of its price the consumers' resistance to its use is also likely to increase in the belief, howsoever mistaken, that it is some kind of inferior cement. We, therefore, consider that there should be no difference in the price of PPC and OPC.*

21.2.11. As indicated in paragraph 21-2-7 one of the major drawbacks that fly ash suffers from is its varying quality. It will also be seen from that paragraph that even now considerable spade work still remains to be done before consistent quality of fly ash can be ensured from the thermal stations and its harmful impurities removed. This underlines the necessity of accelerating further research in this field if PPC is to be regularly produced on a commercial scale. *Wide and sustained publicity will also be necessary to educate the public about the advantages of using such cement. Government Department themselves may have to take the lead in its use as they are the major consumers of cement.* As very little PPC is being produced it has not been possible for us to work out the economics of its manufacture for want of sufficient information. Considering, however, that there is not much of a demand for fly ash *it does appear that its manufacture may, at present, be cheaper than that of OPC. All the same we do not think that keeping the retention price of PPC at the same level as that of OPC is, by itself, going to prove much of an incentive in the present stage of its development.* This so-

called incentive has deen there all these years but the cement manufacturers have, by and large, remained indifferent to itsmanufacture.

21.2.12. *It is in the national interest that the mnufacture of PPC should be encouraged as, inter alia, it will increase the availability of cement and also help to conserve good quality lime-stone. We feel that an added incentive is required to help its speedy development. this incentive can take the form of differential (lower) excise duty on PPC as compared with that on OPC and the Government may like to consider this suggestion. This added incentive would give a fillip to the industry to manufacture such cement and to give it wide publicity to encourage its use by the public and Government Departments. The position may be veviewed and the question of continuing this concession re-considered towards the end of the fifth Plan period by which time, we hope, that the industry's apathy towards PPC manufacture and the consumers' resistance to its use would have been overcome and its use well established.*

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CHAPTER VIII

FUEL, POWER, STORES AND CEMENT MACHINERY

22. Coal

22. 1. The main coal fields accounting for three-forth of the total production and having the best quality coal are situated in the Bengal-Bihar area, Other coal fields lie scattered over other States like Talcher in Orissa, Singareni in Andhra Pradeh, Pench-Valley and Chanda in Maharashtra and Korba and Central India Coal Fields in Madhya Pradesh. This situation entails long and expensive transport of coal from the coal fields to the various cement factories situated all over India, as all the factories are not equally well located for the supply of coal.

22.2. Allocation of coal for the cement factories situated in different states is made on the recommendations of the Cement Directorate. The total requirements and despatches of coal for the cement industry since 1968-69, as furnished by the Coal Controller, are set out in the following Table:

TABLE 22.1

Total requirements and despatches of coal

(In thousand tonnes)

Year	Total requirements	Dispatches	Gap
1968-69	3,370	3,370	..
1969-70	3,950	3,550	(—)400
1970-71	5,140	3,550	(—)1,590
1971-72	5,560	3,870	(—)1,609
1972-73	5,510	3,510	(—)2,000

Source : Coal Controller.

The above Table indicates that the cement industry was not able to get the required quantity of coal in the years 1969-70 onwards. The supplies were short by 400 thousand tonnes in 1969-70 and this short supply increased to 1590, 1690 and 2000 thousand tonnes in the years 1970-71, 1971-72 and 1972-73 respectively.

22.3. Almost all the cement producers have complained that they are not getting the required quantity as well as quality of coal due to restrictions on wagon allotment. Some of the producers have also referred to the poor weighing facilities available at the collieries frequently resulting in shortage of coal. Further, we have been told that there have been instances where coal rakes have been held up enroute for the purpose of pilferage. The shortage of coal on this account is stated to very between eight to ten per cent. The representatives of the industry also drew our attention to the problem created of late by insufficient production of coal at the various collieries and the inadequacy of transport affecting the timely supply of coal to the cement units.

22.4. Another aspect which was stressed before us is the financial aspect. It was stated that of late the producers are being denied the benefit of credit facility and cash rebate which they used to enjoy prior to the nationalisation of th coal industry. The Coal consumers Association of India has stated in this connection that previously even a small industrial consumer used to get 30 to 45 days credit from the collieries for coal supply. After the nationalisation of the coal industry, however, the purchasers of coal have to keep 25 per cent as security deposit and make payment in advance for all the coal purchases which means a difference of at least 60 days in their terms of payment resulting in two per cent additional expenses. The Coal Consumers Association of India has also stated that after nationalisation the prices of non-coking coal have increased to a considerable extent. Stressing on the higher prices payable by the consumers of coal after nationalisation, it has in its letter dated 18th December, 1973 given the following information.

TABLE 22.2

Prices of non-coking coal before and after nationalisation

(Rs. per tonne)

	Before nationalisation	After nationalisation
Rate of steam coal grade-I	37.00 (delivery at Fire Works, Dhansar)	42.00 Ex-colliery
Transport charge . .	Nil	3.00
Sales-tax . . .	1.11	1.26
TOTAL . .	38.11	46.26

Source: Coal Consumers Associaion of India.

22.5. One of the remedies suggested to ease the supply of coal to the cement units is the demarcation of particular collieries for supply of coal to particular cement units. It is stated that if, after taking into consideration the overall needs of the various industries consuming coal, steps are taken to demarcate, as far as it is feasible, particular collieries for supply of coal to particular cement units, it will go a long way to ease the situation of supply of coal.

22.6. *We draw the attention of the Government authorities to the various difficulties experienced by the cement units in the matter of supply of coal by the collieries to them and suggest that suitable steps to remedy the situation to the extent possible may be taken. We also commend the suggestion contained in para* 22.5 *for Government's consideration.*

23. Furnace oil.

23.1. In 1961, Government encouraged the switching over from the use of coal to furnace oil by certain cement factories situated far away from the coal deposits having regard to the overall shortage of railway wagons. In this connection the following details have been furnished to us by the Ministry of Industrial Development.

"In the beginning of 3rd Five Year Plan (1961-62) it was decided that such of the cement factories which were situated in Western and Southern India and were far away from the coal fields could switch over from the use of coal to furnace oil. The switch over was intended to relieve the short supply of coal to the factories and to get over the frequent rail transport difficulties. As the use of furnace oil was more expensive as compared to coal, the Government decided to give such units a reasonable increase in the ex-works price of cement to offset the extra cost involved, after taking into account the concession in railway freight on furnace oil. The following factories switched over from coal to oil and were granted oil subsidy in the form of increased ex-works price of cement.

(a) M/s. Associated Cement Co. Ltd., Bombay.

(i) Dwarka Works (Gujarat)

(ii) Madukkarai Works (Tamil Nadu)

(iii) Sevalia Works (Gujarat)

(b) M/s. India Cements Ltd., Madras.

(i) Talaiyuthu Works (Tamil Nadu)

(ii) Sankaridurg Works (Tamil Nadu)

(c) M/s. Shree Digvijay Cements Ltd., Bombay.

(d) M/s. Saurashtra Ltd., Ranavav (Gujrat)

With effect from 1st January, 1966 Government lifted control over production, price and distribution of cement throughout the country. It was however, decided that oil subsidy may be terminated from a date not later than the 1st July 1967. The Cement Allocation and Coordinating Organisation (C.A.C.O.), which had undertaken to regulate the price and distribution of cement with effect from the 1st January 1966, informed the Government in November 1967 that the producers

had voluntarily agreed to curtail the period of such reimbursement towards oil subsidy by three months, i.e. the discontinuance became effective from 1st April 1967 and not 1st July 1967 the date originally fixed by the Government."

23.2. According to the Task Force on Cement Industry, "..... only 13 out of the 50 cement factories in India are at present using furnace oil/light diesel oil for the purpose of producing clinker, power generation, drying of raw materials etc. Out of these, only three cement factories are consuming furnace oil for the production of white cement and there is a tendency for the rest of the cement factories to shift to coal firing for the production of portland clinker. The main bottleneck lies in the non-availability of sufficient wagons from the Railways for coal movement."

23.3. During the public inquiry a submission was made to us that in certain factories (particularly in the Western and Southern regions), coal was in chronic short supply. Inspite of their best efforts there was, therefore, no option for such producers except to use furnace oil. Since furnace oil attracts a very high excise duty it was pleaded that either furnace oil supplied to such units should be exempted from the payment of excise duty or that the element of such duty should be reduced to a nominal level so that the cost of furnace oil to them could be at par with that of coal.

23.4 *We have considerable sympathy with the lot of the producers who just do not find it possible to get adequate supplies of coal. It means either their cutting down production or incurring heavy losses. The present state of national economy requires that cement production should be maximised in every possible way.* We are aware that there is shortage of furnace oil which is likely to be further accentuated by the recent sharp increase in the price of imported oil. We have, however, to balance the various factors and look at the picutre as a whole. The very fact of scarcity and high prices of imported oil necessitates our looking round for items which can be readily exported to earn foreign exchange *Cement is one such item. It is needed for industries at home and, as a foreign exchange earner, for export.* The desideratum should, therefore,

be to speed up production of cement to the maximum extent possible. *It is, of course, desirable that all units which are using furnace oil should be encouraged to switch over or, switch back, to coal and Government should facilitate such a change over.*

23.5. There may, however, still be cases where to ensure continuous production at a high level, availability of coal may just not be sufficient and use of furnace oil becomes inevitable if the production is not to be cut down. *We, therefore, suggest for the Government's consideration that where the Government is satisfied that the production of cement is being impeded for want of coal it should allow the use of furnace oil to such extent and for such operations as it considers essential for the increase in the production of cement. In other words, where a unit is compelled to use furnace oil in lieu of coal this use and its duration will have to be sanctioned and approved by the Government for eligibility to any concession the Government may decide to give. In such cases, we suggest that the Government should ensure that the cost of furnace oil used by the unit concerned is not more than the cost of coal that would have been required for the production of the same amount of cement. This may be done by an appropriate relief in the amount of excise duty on furnace oil so used or by a suitable subsidy. In the alternative, units which, perforce, have to use furnace oil may be given, as an addition to the uniform retention price, the difference between the cost of furnace oil used and the cost of coal required. As at this stage we are not aware as to which factories will need the use of furnace oil with the Government's permission and what its quantity will be, it is not possible for us to quantify the amount of relief needed. The method of relief, and the quantum thereof, may be decided by the Government in each case as and when the occasion arises.*

23.6. It may be mentioned in the above connection that if our recommendation is accepted, this would not be the first time that Government would be resorting to "oil subsidy" though, of course, the compulsion of events is somewhat different now. It may be recalled that in 1962 in order to relieve the short supply of coal to the factories and to get over the frequent rail transport difficulty the Government had decided to encourage the switchover from coal to furnace oil in cement factories in Western and Southern India particularly those situated far away from the coal fields. The purpose was to offset the extra cost of furnace oil as compared with

that of coal. The switchover was encouraged by grant of a suitable subsidy partly through reduction in railway freight on consignments of furnace oil in wagon loads booked from designated ports and partly by a suitable increase in the ex-works price of cement to such factories. This oil subsidy was granted with effect from 1-7-1962 and is said to have lasted till 31-3-1967. The subsidy had to be withdrawn because cement was decontrolled with effect from 1st January, 1966. [The cement industry was brought under Government control again with effect from 1-1-1968 but the oil subsidy was not resumed.]

24. Power.

24.1. A majority of cement producers have complained against the frequent power failures resulting in significant fall in the production of cement. The C. M.A. has stated that more often than not the industry faces power shortages and voltage fluctuations and that there are also frequent interruptions in the supply of power. It has contended that the failure of power supply even for a short period has the effect of loss of production for many hours, as the production of cement is a continuous process. The A.C.C. has in this context mentioned that the present shortage of power throughout the country is a well-known phenomenon and this shortage would continue for some years to come. Anticipating the shortage in the late seventies the Power Ministry is stated to have prepared a plan for the decade 1971-81 aimed at generating capacity of 52 million KW by 1980-81 on the basis of an estimated annual increase of about 12 per cent in demand i.e. establishment of additional capacity of the order of 3.5 million KW per year as against the current probable annual addition of one million KW.

24.2. Since cement is one of the important commodities necessary for economic development of the country, it is essential to ensure that the production of cement is rapidly stepped up to meet its increasing demand. This can be achieved, *inter alia*, if there is an assured and uninterrupted supply of power to the cement industry. We understand that at present apart from power shortage there are occasional power failures or power trippings which hamper continuous production of cement. *One of the ways in which supply of uninterrupted power to cement units could be ensured is to encourage the cement units*

to instal and work their own generating sets. We recommend that proposals from the cement units for the setting up of and working their own generating sets should be considered sympathetically by the authorities concerned.

25. Stores and Spares.

25.1. The C.M.A. has pointed out that the industry finds it extremely difficult to procure its requirement of iron and steel, tyres and tubes and conveyor belts at the market prices and is therefore forced to buy them at very high prices. It has also complained that while the prices of stores and spares used in the industry are in general rising at the rate of seven to nine per cent per annum, the rise in some of the major items of stores and spares, namely grinding media, steel castings, rubber beltings, iron and steel, wire ropes, refractories etc., was as high as 11 to 14 per cent per annum (33 to 42 per cent during the last three years). Almost all the cement factories have corroborated the views of the C.M.A. and also stated that the delivery period in the case of some of the items such as heavy steel castings, steel plates and large gear boxes extends upto three years. They have also contended that since there are only one or two manufacturers in the case of certain items like grinding media, M.S. angles, M.S. plates etc., their prices have increased to as high as over 100 per cent.

25.2. Thus the complaints are mainly tow-fold viz., that the delivery period of items is too long and that the prices of the items have been increasing abnormally. *We are particularly concerned about the former aspect, namely, the unduly long delivery period taken by the manufacturers for the supply of these items. We understand that the supply of most of the items mentioned above is made by the public sector undertakings. Government may therefore look into the matter for such steps as may be considered necessary to expedite the delivery of such items.* We also understand that import of heavy castings has so far been agreed to in certain cases. However, requirements of M.S. plates and M.S. angles which are generally met from indigenous sources are in short supply. *It appears to us that such units as are not in a position to procure the requirements of these materials from indigenous sources should likewise be permitted to import them on an* ad hoc *basis. We suggest that Government may take appropriate measures in this regard.*

26. Cement Manufacturing Machinery.

26.1. We have received some complaints about the cement manufacturing machinery industry regarding prices, quality, delivery period etc. Even though we are not directly concerned with this industry as such, we propose to deal with a few aspects of it which have a direct or indirect bearing on the cost of production of cement. The cement manufacturing machinery industry has made considerable progress towards attaining self-sufficiency since the atsl inquiry was made by the Tariff Commission in the year 1961 and by and large the industry appears to be now well established. Over the period of years the indigenous industry claims to have reached the stage where it is in a position to take up even turn-key jobs and supply of complete cement plants for installation abroad. The import content of cement machinery has also been gradually reduced. Prior to the year 1966 the import permitted by Government was to the extent of Rs. 27.5 lakhs in respect of wet process plants and Rs. 30.5 lakhs in respect of dry process plants. It has been stated that the import content at present is to the extent of only Rs. 18 lakhs for a dry process plant. The trend is now more and more towards putting up dry process plants.

26.2. Capacity of the Cement Manufacturing Machinery Industry.

According to the information supplied to us the cement manufacturing machinery industry has at present a production capacity of 17 standard plants per annum(Standard plants represents 600 tonnes or 1000 tonnes per day capacity). We understand that the annual capacity of these units will not very appreciably even if the plants ordered are for 1000-1200 tonnes

per day. Details of capacity in respect each unit manufacturing such machinery are given in the following Table :

TABLE 26.1

Annual capacity of the Cement Manufacturing Machinery Industry in terms of standard plants

Name of the Manufacturer	Annual capacity* in terms of Standard plants of 600 tonnes per day or 1000 tonnes per day	Total number of plants which could be delivered during the Fifth Plan
1	2	3
1. ACC/AVB	7	35
2. Indian Sugar and General Engineering Corporation	2	10
3. KCP	2	10
4. Larsen & Toubro	2	10
5. Mc Nally Bharat Engineering Co. Ltd. .	2	10
6. Utkal Machinery	1	5
7. Walchand Nagar Industries . . .	1	5
TOTAL	17	85

Capicity will not vary appreciably if the plants ordered are 1030-1200 tonnes/day.

Source : Report of the Task Force on Cement Industry.

26.3. As already stated we have received complaints from the cement industry about the indigenous machinery obtained by them. Broadly these complaints relate to (i) non-establishment of capacity to manufacture larger sizes (ii) adoption of obsolete designs from the Western countries leading to uneconomical scale of operation, (iii) after sales service and the absence of Suppliers Performance Guarantee etc. There are also some major complaints regarding the long delivery period and high prices of cement plants supplied by the industry.

26.3.1. Taking into consideration the target of 33 million tonnes of envisaged capacity for the production of cement by the end of the Fifth Plan period, the Cement Machinery Manufacturers have asserted that they are confident of meeting the country's demand for cement machinery provided they receive raw materials and clear orders in time. Almost all the machinery manufacturers who replied to our questionnaire stated that they can cater to various sizes of plants. In fact, we were informed that one of the units has supplied a one thousand-tonne per day semi dry cement plant to the Ranavav factory of Saurashtra Cement and Chemical Industries Ltd. as part of its expansion scheme. A couple of the machinery manufacturers have even claimed that they are capable of supplying plants of a bigger size of even two to four thousand tonnes per day plants. However, even if this is possible, there are two constraints for going in for such bigger size plants in India at present. The first arises out of the limitation on the dimension and tonnage of individual items of machinery that could be transported by rail or road. The second is due to the non-availability of large size castings and forgings of indigenous make, and other items like large size electric motors and gear boxes of the required horse power for driving the large grinding mills and the instrumentation of the type necessary for such large cement plants.

26.3.2. The various machinery manufacturers have denied the charge that they resorted to the adoption of obsolete designs from the Western countries leading to uneconomical scale of operation. They have informed us that the latest technological improvements made in the developed countries

are incorporated in the indigenously manufactured cement machinery, as provided in the relevant collaboration agreements and obsolete designs are not being adopted. However, regarding sophistication, some of the machinery manufacturers have expressed the view that on account of limited foreign exchange and lack of trained hands, and prevailing unemployment, it may not be desirable to have sophistication.

26.3.3. As regards the complaints relating to poor after sales service etc., the machinery manufacturers have maintained that such complaints are not justified and in fact satisfactory after sales service is being provided to all the purchasers of machinery as and when needed. As regards the complaint about the absence of Suppliers' Performance Guarantee, the Cement Machinery Manufacturers have expressed their surprise that such a complaint should have been made, since the contracts which are signed by them with the purchasers of machinery do incorporate warranty and damage clauses which are invariably adhered to.

26.4. **Complaints about the delivery period**

26.4.1. There seems to be lot of misgivings about the delivery period of machinery which is stated to be unduly long and uncertain. In the course of the public inquiry, even some serious doubts were expressed about the real capacity of the cement manufacturing machinery industry in India and we were requested to suggest to Government to make a real assessment of the capacity of the machinery manufacturers.

26.4.2. On this point the cement machinery manufacturers have clarified that they have to depend for their supplies of raw materials mainly on Government organisations such as Hindustan Steel Ltd., for all steels, the Heavy Engineering Corporation, Ranchi for steel castings and heavy forgings etc., Heavy Electricals, Bhopal for the supply of heavy motors etc. Further, according to the cement machinery manufacturers "The above suppliers are also not ready to accept orders under penalty contracts, and being monopoly organisations, the manufacturers have no alternative but to place their orders on them with long and uncertain deliveries without any commitments". The cement machinery manufacturers

have also referred to other difficulties such as the time consuming process in the matter of issue of import licences by Government organisations, drawing of steel from canalised agencies such as Hindustan Steel etc. According to the Cement machinery manufacturers none of these concerns is ready to give firm deliveries while early delivery of items by these concerns would enable the fabricators to maintain quick deliveries in their own turn to the cement manufacturing units. One of the solutions suggested to get over these handicaps, was permission to import on *ad hoc* basis equipment which the indigenous manufacturers were not in a position to supply within a period of 12 months.

26.4. 3. While reviewing the development of the cement machinery manufacturing industry, the Task Force V in its Report on machine Tools Industrial Machinery and Allied Industries has observed that "even though there are eight units licensed to manufacture cement machinery in the Organised Sector with a total capacity of 17 plants per year, the Working Group has assessed the actual available capacity not more than 10/12 plants per year. The Working Group has therefore concluded that no additional capacity need be set up for meeting the anticipated requirement during the Fifth Plan period. The Working Group, however, pointed out certain bottlenecks and constraints faced by the cement machinery manufacturing industry and if these are not removed, it may not be possible for the industry to meet the anticipated demand during the Fifth Plan period." *In view of these observations, we do not see any necessity for re-assessment of capacity of the cement machinery manufacturing industry as suggested in paragraph* 26.4.1.

26.4.4. The foregoing discussion shows that the real problem of the cement machinery manufacturers is their entire dependence for supplies of major components on public sector undertakings such as Hindustan Steel, Heavy Engineering Corporation, Ranchi and Heavy Electricals, Bhopal. *The primary need therefore would be to assess the capacity of these undertakings to supply components without undue delay and to take suitable measures to gear up their production programme so as to ensure timely supply of complete* cement plants by the cement machinery manufacturers with a view to meet the target of production of cement

during the Fifth Plan period. We have already indicated the remedial measures necessary in this connection in para 25.2.

26.5. **Complaints on prices of machinery**

26.5.1. In the course of the public inquiry the question of the abnormal increase in the price of cement making machinery in the last two years was discussed at length. It was alleged by the representatives of the producers of cement that the mounting prices of cement making machinery were out of proportion to the increase in the price of components such as steel castings cast iron casting, etc.

26.5.2. On the other hand, representatives of the Cement Machinery Manufacturers' Association has contended that the increase in the prices was beyond the control of the manufacturers. It was stated that in a cement plant the major components consists of boiler quality and structural steel plates, forgings, heavy steel castings and cast iron castings. The prices of such machinery are based on the prices of these components as well as bought out items and such prices are beyond the control of the machinery manufacturers. We are told that the boiler quality and structural steel plates are not available from the Joint Plant Committee (J.P.C.) and they have to be imported through the M.M.T.C./H.S.L. It was, further argued by them that the landed price of these items is at present two and a half times more than that prevailing four to five years ago. The price of heavy steel castings has increased by three to four times and that of cast iron castings by nearly two and a half times. The labour cost and the cost of consumables like electrical items, power, gas, electrodes, etc. have also increased considerably. All these factors have, in the opinion of the industry, made the cost of the basic components available from the various sources almost 80 to 100 per cent higher as compared to the prices which were prevailing five years ago.

26.5.3. We find that the question of the price of cement making machinery has been the subject matter of examination by the Task Force for Cement Industry. The Study Group set up by the Task-Force went into the details of the cost increases in the cement making machinery including electricals

since the year 1969 and came to the conclusion that such increases would be justified at 70 per cent as against the actual price increase of more than 100 per cent. *It was also suggested that the matter may be looked into further by the Task Force No. V on Industrial Machinery particularly with a view to examining the steps that might be needed to bring down the prices of cement making machinery as well as of the castings and electrical items supplied by the H.E.C. Ranchi and Heavy Electricals, Bhopal. The matter is certainly well worth a study in depth and we hope that as a result of this study and/ or such other studies that may be undertaken, Government would find it possible to take necessary steps early to ensure a significant reduction in the prices of cement making machinery.*



CHAPTER IX

STANDARDS, QUALITY, RESEARCH & DEVELOPMENT

27.1. Standards published

27. Standards

We understand from the Indian Standards Institution (I.S.I.) that the following eight standards have so far been published on different varieties of cement.

(i) IS: 269-1967 Ordinary, rapid-hardening and low heat portland cement (second revision)

(ii) IS: 455-1967 Portland blast furnace slag cement (second revision).

(iii) IS: 1489-1967 Portland pozzolana cement (first revision).

(iv) IS: 3466-1967 Masonary cement (first revision).

(v) IS: 6452-1972 High alumina cement for structural use.

(vi) IS: 4845-1968 Definitions and terminology relating to hydraulic cement.

(vii) IS: 4031-1968 Methods of physical tests for hydraulic cement, and

(viii) IS: 4032-1968 Method of chemical analysis of hydraulic cement.

27.2. Standards under preparation

The I.S.I. has further informed us that the four standards mentioned below are under preparation:

(i) Draft specification for super sulphated cement.

(ii) Draft specification for oil well cement.

(iii) Draft specification for white portland cement, and

(iv) High strength portland cement.

The producers have generally stated that they are adhering to the I.S.I. standards.

28. Quality and Quality Control

28.1. The Commission in its 1961 Report had observed that "the Cement Industry should take adequate steps to maintain the quality of its products and be vigilant about abuses creeping into the lower tiers of distribution" (paragraph 7.7). We have been informed by the C.M.A. that the cement industry has been taking adequate steps to esure quality of its products. Never the less, the C.M.A. has frankly admitted that on account of scarcity conditions certain malpractices are sometimes found at distribution points. However, whenever abuses come to the notice of the industry, attempts to take effective steps to curb such tendencies are stated to be made by the industry. So far as Government is concerned, it has under the Essential Commodities Act issued the Cement (Quality Control) Order 1962 prohibiting the manufacture and sale of sub-standard cement. Both D.G.T.D. and the Cement Controller have further stated that the quality of indigenous cement is by and large good. The I.S.I. is of the opinion that the quality of cement produced in the country is comparable with the foreign product. The I.S.I. has gone a step further and stated that in some cases indigenous cement has higher strength values than those specified in their standards. In the course of the public inquiry, actually a plea was made by some that production of better quality cement should be encouraged by providing an extra element in the retention price for such production. On this issue *we understand that better quality of cement is not necessarily the result of better process or better techniques but due to the availability of better quality|higher grade lime-stone to the cement factories concerned. We feel that a stage has not yet come where OPC can be priced according to different grades suitable to the technical needs of consumers. This does not mean that we are against the manufacture of higher or better grades of OPC. The product of such of those manufacturers who produce better quality of cement naturally becomes more competitive, sells better and adds to the Reputation of the manufacturers concerned.*

28.2. We have also tried to ascertain the views of the consumers regarding the quality of cement supplied to them. Though some of the consumers stated that the quality of cement is by and large good, some others complained that the quality is not consistent and varies from factory to factory. One of the specific defects brought to our notice is the usage of old bags for packing cement resulting in loss of weight to the extent of about 10 to 15 per cent during transit thereby causing loss to the consumer. Other defects pointed out were about inconsistency and unsatisfactory stress, usage of inferior materials affecting the quality of cement etc. It was also stated that no consumer can afford to dispute the quality of cement with the supplier for fear of being starved of supplies at a later stage. The representative of the Builders' Association of India pointed out that the quality of cement is indifferent and it gets deteriorated before it reaches the construction site, as most of the bags used for packing are old. He pleaded that some arrangement should be made to ensure that cement was not adulterated in the process of being supplied to the consumer. One of the solutions suggested by him to ensure good quality of cement was to entrust supply of cement to one single agency so that complaints could be investigated.

28.3. We do not think the suggestion of the Builders' Association is practicable. Nor do we think that such a step, even if adopted, will eliminate the possibility of adulteration. Adulteration is the malaise of the prevailing shortage of cement in the market and seems to take place at the level of middlemen rather than in the cement factories. Almost all the producers have stated that they have well equipped laboratories to conduct all the physical and chemical tests on the cement produced by them with a view to ensuring that the product conforms to I.S.I. specifications. It has also been stated that the samples of cement are sent by the producers to the National Test Houses for periodical testing, of the quality of cement.

28.4. *Though the general consensus of opinion voiced before us was that the quality of cement is by and large good, there is no doubt that there are complaints about the setting time and other damage to*

cement received by the consumers. Apparently also some of the old bags used by the units are torn and bad. We would like to draw the attention of the industry to the various complaints voiced by the consumers and urge it to make earnest efforts to eliminate the same. There is scope for improvement in the distribution system also. We have dealt with that aspect in the paragraph dealing with Distribution Control.

29. Research and Development (R & D)

29.1. Research is an essential activity for the development and progress of any industry. According to the information available to us, substantial expenditure on R. & D. is incurred both by the Government and the industry in foreign countries. The importance of R. & D. needs no stress. In the ensuing paragraphs we deal with the efforts in connection with R. & D. put in both by the industry as well as by research institutes.

29.2. We requested the producers both in the private and public sectors to furnish information about the efforts being made by the Industry in the direction of developing research. The information supplied to us indicates that most of the factories appear to have well equipped laboratories where facilities for conducting daily routine tests in connection with the manufacture of cement are available. The A.C.C. have stated that they have got a well equipped modern research laboratory known as the Central Research Station at Thana, Bombay. It is stated that this station attends to problems requiring detailed investigation for basic research relating to the manufacture of cement as well as for the development of new products, such as, PBFS cement etc. The impression which we have gathered from the replies received from the various producers is that the efforts of the producers are mostly directed towards dealing with local problems which arise in the course of the manufacturing activity and attempts to get over such problems. The efforts being put in by the the producers for R. & D. activity in general for the future development of the industry appear to be rather meagre.

29.3. We understand that the major research for the development of the cement industry is being done by the

Cement Research Institute of India (C.R.I.I.). This Institute, which has been set up jointly by the C.M.A. and the Council of Scientific and Industrial Research (C.S.I.R.), is understood to have undertaken intensive research in specialised fields, connected with cement. The Institute is an autonomous body, registered under the Societies' Registration Act, 1860, with a council of management consisting of representatives drawn from the cement industry, the Government and the user interests. The Institute set up its nucleus office in Delhi in September 1966. We have obtained detailed information about the activities being carried on by this Institute. We understand that keeping in view the R. & D. needs of the cement industry, this Institute has laid down its areas of work which are pursued mainly through several technical divisions. The R. & D. programme of the Institute is stated to have been formulated on a "mission oriented basis". The Institute has claimed that it has already handled a number of problems and had been able to translate its findings and recommendations into meaningful gains and concrete results. The Institute is also stated to be running a number of technical services to the Industry, such as, cement and concrete standard reference service, training of technical personnel, technical information service, etc. Certain regular periodical publications are also issued by the Institute. We have visited this Institute and observed its functioning. We have also gone through the voluminous material furnished to us by the Institute. *It appears to us that the Institute is doing very useful work and deserves to be encouraged in the larger interests of the development of the cement industry as a whole.*

29.4. We understand that in 1962, the Government had directed all the producers to deposit a sum of ten paise per tonne of cement produced in an account designated as "Research Account". Drawals from the "Research Account" were to be allowed by Government to the producers for approved expenditure on research on an *ad hoc* basis. Subsequently this contribution of ten paise per tonne of cement produced was diverted to the use of the C.R.I.I. when it was set up. The contribution continued to be made by the industry even during the period of decontrol, viz., the years 1966 and 1967 and the same is being continued even today.

At one stage, in view of the urgent needs of the Institute for additional finance for construction of its buildings etc., the question of increasing the contribution from ten paise per tonne to a higher figure of 30 paise per tonne was considered. However, no such increase was actually effected.

29.5. The Director of the C.R.I.I. has strongly pleaded that in view of the very useful work being done by the Institute for the benefit of the industry as well as in view of the need of the Institute for additional finance, the receipt of the aid at the rate of ten paise per tonne is insufficient and requires to be substantially enhanced. *In this connection it has been pointed out that the contribution at the rate of* 10 *paise per tonne works out roughly to* 0.05 *per cent of the selling price or* 0.1 *per cent of the present retention price of cement.* The Director has also pleaded that with a view to ensuring the receipt of the aid on a firm basis, it is imperative that any contribution to be made to the Institute should form part of the retention price.

29.6. We have given considerable thought to the question of R. & D. in the Cement Industry and adequate funds required therefor. It is, of course, in their own interest that the producers should have well-equipped research laboratorieis as part of their plants. Cament is, however, an industry *where we feel that in addition to what the individual units may achieve for their individual benefit by their research efforts there is need for centrally organised research and development for the benefit of the industry as a whole.* We have already mentioned about the useful work being done by the C.R.I.I. This Institute appears to be the major Central Research Institute for the cement industry but we are not aware whether this is the only organisation in this field. *In paragraph* 39.4.14 *dealing with costs we have suggested that a sum of Re.* 0.50 *per tonne may be earmarked for centrally organised R. & D. activities. This sum will form part of the retention price but will be deposited by the producers in a seperate "Research Account". This account will be at the disposal of the Central Government and will be utilised by the Government for assisting the C. R. I. I. and such other centrally organised research organisations as in the opinion of the Government, may be doing useful R.&D. work in the interests of the Cement industry as a whole.*

CHAPTER X

TRANSPORT, REGIONAL IMBALANCE, SPLIT LOCATION AND FREIGHT POOLING

30. Transport

30.0. Despatches of cement take place by rail, road or sea. About 70 per cent or more of the cement despached is transported by rail, 20 to 30 per cent by road and less than three per cent by sea. A statement showing the nature of transport used for despatches by the cement industry from the years 1968 to 1972 is given below :



TABLE 30.1

Nature of Transport used for despatches

(In lakh tonnes)

	1968	1969	1970	1971	1972
Total Despatches: (excluding export & self-consumption)	115.91	133.95	136.52	145.98	155.78
Of the above how much					
(a) Transported by Rail (Quantity)	84.37	102.31	105.90	109.18	106.95
(% to total despatches)	(72.8)	(76.4)	(77.6)	(74.8)	(68.7)
(b) Transported by Sea (Quantity)	0.57	3.27	3.59	3.99	1.58
(% to total despatches)	(0.5)	(2.44)	(2.63)	(2.73)	(1.0)
(c) Transported by Road (Quantity)	30.97	28.37	27.03	32.81	47.25
(% to total despatches)	(26.7)	(21.2)	(19.8)	(22.5)	(30.3)

Source : C.M.A.

30.1. Rail Transport

30.1.1. Types of wagons allotted for movement of cement

30.1.1.1. Most of the cement which is despatched by rail moves in covered wagons which are of various capacities such as, 55 tonnes, 24 tonnes etc. In fair weather we are told by the Railways, that they encourage, to some extent, the movement of cement in open wagons also. When cement moves in open type of wagons the wagons are protected with Tarpaulins etc. and there is no danger, therefore, of the cement getting damaged in transit. We understand that formerly the Railways were providing such tarpaulins but that arrangement is no longer available. It has been suggested to us by some, that the industry can undertake to cover the open wagons by providing tarpaulins and even escorts, provided there is a lower freight classification for transport by open wagons as compared to transport by closed wagons. We understand that such lower classification is not at present available for open wagons. It has been contended that since open wagons cost much less in capital cost than covered wagons, there is every justification for such a lower freight classification.

30.1.1.2. *In view of the fact that there is a larger availability of open wagons as compared to closed wagons and since during peak seasons Railways have perforce to accord greater priority to movement of essential commodities like foodgrains which require closed wagons, movement of cement by open wagons needs to be encouraged. The plea of the industry that a lower freight classification for open wagon transport should be accorded appears to be justified and we suggest that the matter may be considered sympathetically by the Railway Authorities.*

30.1.2. Priority given for movement of cement

Cement is being accorded a fairly high priority status by the Railways in the matter of movement. Cement moves under class "C" of the Preferential Traffic Schedule issued by the Railway Board. The only two other groups which have higher priority are those falling under Class "A" consisting military moves for operational purposes and class "B" consisting

generally of movement of foodgrains and fertilizers sponsored by the Central Government. Despite this high priority accorded to cement, shortage of railway wagons for movement of cement has been a perpetual phenomenon and the supply of railway wagons has reportedly failed to keep pace with the growth of the cement industry.

30.1.3. **Wagon supplies**

30.1.3.1. The following information has been furnished by the Cement Controller regarding the position of wagon supply to the cement industry :

TABLE 30.2

Wagons indented, received and loaded

(in thousand numbers)

	1969	1970	1971	1972	1973 (Jan-Sept.)
1	2	3	4	5	6
Indented .	595	654	760	727	421
Received .	530	549	575	550	360
Loaded .	504	515	542	531	347

The above Table shows that there has always been a gap between wagons indented and wagons received during the above years. It appears that either the wagons are over indented or that the Railways have not been able to supply the wagons required. Either way it is an unhappy situation and calls for remedial measures.

30.1.3.2. The above Table also indicates that the wagons received have never been fully utilized. The main reason given for lower utilisation of wagons was the presence of "rejects" *i.e.* the wagons that had to be rejected on account of their being found defective. Sometimes the factories were

themselves not able to utilise all the wagons received on account of some temporary or short-term difficulties, such as, power breakdown and mechanical troubles. *Occasionally the factories had to resort to road transport instead of transport by rail because of the non-availability of wagons in time. Perhaps a little more coordination between the Railway Authorities concerned and the industry should help to improve the position considerably. We suggest that the Railway authorities concerned may look into the matter so that suitable remedial measures, where necessary, may be taken for coordinated and timely supply of adequate wagons to the cement industry and for the proper maintenance of such wagons.*

30.1.4. **Target and actual movement of wagons**

According to the Railway Board thetarget for movement of cement is fixed for each financial year by the Railawys prior to the commencement of that year in consultation with the Ministry of Industrial Development and the Planning Commission. Such target is fixed on the basis of the anticipated production and the anticipated quantum of movement by road and sea from each factory. After taking into consideration such quantum, provision is made to move the balance by rail. The overall target for movement of cement and actual quantity moved by rail during the years 1969-70 to 1972-73 as per the figures supplied by the Railway Board are set out in the Table below :

TABLE 30.3

Target and actual movement of cement

(In million tonnes)

Year	Target	Actual movement
1969-70 . . .	9.9	10.7
1970-71 . . .	10.7	11.01
1971-72 . . .	12.0	11.2
1972-73 . . .	13.3	10.57

(*Source :* Railway Board)

30.1.5. Areas badly affected due to wagon shortage bottlenecks

According to the Cement Controller, there are certain well defined sectors which are perpetually affected by wagon difficulties. Units affected by such difficulties are those situated on the South Eastern Railway and South Central Railway, namely, Jamul, Chaibasa, Bargarh, Chanda, Mancherial, Ramgundam, Shahabad and Wadi. On the Western Railway, Ranavav faces maximum difficulties in respect of movement by rail. Apart from the above, facilities at transhipment points are far from adequate all over the country. Track limitations also contribute to wagon difficulties.

30.1.6. Problems faced by the Railways

30.1.6.1. According to the Railway Board, the primary reason for bottlenecks in rail movement of cement is the regional imbalance existing in the industry as a result of which there is a great demand for movement of surplus cement from the Southern and Western regions to the deficit areas in the North and East. This creates problems for the Railways in meeting the requirements of wagons. Another factor which necessitates large scale movement of cement is the varying rate of per capita consumption from region to region over the years due to greater prosperity and/or industrial activity in certain areas. For example consumption of cement in Delhi itself increased by 14 per cent over the previous year in the year 1970 and further increased by 36 per cent in the year 1971 and was expected to increase rapidly in the coming years also.

30.1.6.2. The decade 1960-61 to 1970-71 witnessed, according to the Railway Board, an increase of only about 70 per cent in the tonnage of cement lifted. During the same period, on the other hand, the net tonne kms. of cement traffic re gistered an increase of 180 per cent. This additional movement threw a heavy stra in on the movement capacity over some difficult sections and on the availability of covered wagons. Indicating the problems it is facing, the Railway Board has stated that movement of cement from the South to

North involves movement over the North South Grand Trunk route where line capacity work in connection with doubling of the section are in progress and spare capacity is therefore not available to meet additional demand. Movement from factories in the West, in Rajasthan and Saurashtra, to Punjab and Haryana involves transhipment from metre gauge to broad gauge. There was problem of movement to the North Eastern States like Assam, Manipur, Nagaland and Meghalaya till the commissioning of Farakka Bridge. There is also the problem of lack of adequate terminal facilities in some areas.

30.1.6.3. The Railway Board has stated that with the improvement in the law and order situation, in the Eastern sector in the year 1972 and cessation of special defence moves the Railways were able to meet the demand more satisfactorily in that year. The Railway Administration is stated to be closely watching the performance of each Railway in respect of wagons supplied to each cement factory on a daily basis and remedial action is being taken to correct any defects in the distribution of covered wagons.

30.1.6.4. Efforts of the Railways to improve the utilisation of covered wagons are still being impeded to a certain extent by interference with the running of the trains. There is also the problem of slower release of wagons at major terminals by the trading community who tend to use covered wagons as storage godowns. This practice appears to be wide spread and is not confined to the cement industry alone. To discourage the trade from making use of wagons as storage godowns, certain mesures have been taken by the Railways like stepping up of the rate of wharfage and demurrage with effect from 1st December 1972 and also by reducing from 30 days to 7 days the period for which the Railways accept liability for security of consignments after termination of transit.

30.1.7. Suggestions of the Railway Board for overcoming the difficulties of transport

30.1.7.1. The Railway Board has informed us that the following suggestions have been made by it to the industry

for overcoming the present difficulties in the transport of cement :

" (i) Increased movement in block rakes which are easier to move and therefore result in reduction in the turn-round of wagons and in turn lead to greater availability of wagons.

(ii) Setting up of dumps in or near major centres of consumption, so that movement in block rakes is facilitated to a greater extent.' Here again, the idea is that cement which moves by rail to these dumps which should be near the major areas of consumption would move thereafter by road.

(iii) Setting up of grinding plants in or near major areas of consumption. The advantage in this arrangement is that the clinker produced in the cement factories can move conveniently in open wagons which are readily available in cement factories, as most of the raw materials to cement factories move in this type of wagons. If grinding plants are set up in or near the areas of consumption, requirement of covered wagons for further movement also gets reduced.

(iv) Examining the possibility of improving the packing condition of cement like using polyethylene lined bags, as is done in advanced countries, so as to increase the scope of movement in open wagons."

30.1.7.2. *We consider that the suggestions at (i) and (ii) above may be examined by the Cement Controller who deals with the arrangement of wagons and distribution of cement inclose coordination with the Railway Authorities. As regards the suggestions at (iii)*

above, we have separately dealt with the same in paragraph 32 on split location.

30.1.7.3. The suggestion at (iv) above is worth consideration. We understand from the C.M.A. that the C.R.I.I. having studied the avilability and technoeconomic aspects of the various packing materials widely used in different parts of the world namely, jute, paper and plastic have now arrived at a new type of bag which is based on the indigenously available materials such as, jute, polyethelene and bitumen. It appears that the new type of bag is being given a trial by the industry. The Jute Commissioner is also looking into matter. He has suggested that the use of jute bags of alternative construction should be explored. According to the Jute Commissioner, recent reports indicate that D.W. tarpaulin bags with polyethylene lining have given promising results in field trails. The Jute Commissioner considers that this matter should be further studied. *We agree that the matter is important enough to be pursued further vigorously by the C.R. I. I. and others concerned since any improvement in the present method of packing will reduce loss of cement by leakage and may also facilitate its movement in open wagons.*

30.1.8. **Freight Element**

As already stated at parag raph 2.4.2. the Government has asked us to review the position of freight pooling so as to minimise the burden of transport cost to the consumer and, in particular, to assist in reducing regional imbalances in the development of the industry. It was also stated that since the freight cost also is a cost to the economy and to the consumer the relevant consideration should be to minimise the total cost etc.

30.1.8.1. The following Table complied from the information supplied by the Cement Controller gives details or the freight paid by the factories in various regions.

TABLE 30.4

Average Zonal Freight

(Rs. per tonne)

Zones	Years				
	1969	1970	1971	1972	1973 (Jan-Sept.)
1	2	3	4	5	6
North . .	30.03	36.27	38.05	39.82	30.11
East . .	33.96	35.68	35.11	40.46	34.16
West .	29.28	30.62	32.71	34.72	38.30
South . .	19.28	19.62	21.43	22.65	28.16
All India .	27.94	30.47	31.46	33.91	32.34

(*Source* : Cement Controller.)

The latest zone-wise position for Jan.-Sept. 1973, as given by the Cement Controller is given below :

TABLE 30.5

Consolidated inter-Regional and intra-Regional despatches and freight 1973 (*Jan-Sept.*)

(Qty. lakh tonnes Frt. in Rs. lakhs)

Zone	Despatches effected to and freight				Total
	North Zone	East Zone	West Zone	South Zone	
1	2	3	4	5	6
North Zone					
Quantity .	15.32	Negl.	0.20	..	15.52
Freight .	461.28	0.05	6.05	..	467.38
Average Freight .	30.10	Negl.	30.25	..	30.11

1	2	3	4	5	6
East Zone					
Quantity .	1.07	17.44	0.07	..	18.58
Freight .	43.19	589.84	1.84	..	634.87
Average Freight	40.36	33.82	40.36	..	34.16
West Zone					
Quantity .	8.63	1.99	18.40	0.46	29.48
Freight .	400.26	115.21	596.71	16.82	1,129.00
Average Freight	46.38	57.89	32.43	35.56	38.30
South Zone					
Quantity .	1.58	0.74	8.51	31.02	41.85
Freight .	146.75	61.66	365.51	604.94	1,178.86
Average Freight	92.87	83.32	42.95	19.50	28.16
TOTAL (Jan-Sept. 1973)					
Quantity .	26.60	20.17	27.18	31.48	105.43
Freight .	1,051.48	766.76	970.11	621.76	3,410.11
Average Freight	39.53	38.01	35.69	19.75	32.34

Source: Cement Controller.

NOTE.—Cement Controller has informed us that these are based on the returns received by him from the producers and are yet to be tallied. Hence this is to be taken as a tentative position.

30.1.8.2. *Freight on inter-regional despatches.*—A consolidated statement showing inter-zonal and inter-regional despatches and freight for the latest available Period January-September 1973, for each unit is given in Appendix 18. This statement gives an idea of the freight from region to region. It will be seen that as against the all-India average freight of Rs. 32.34 per tonne, there were occasions when cement had to be hauled from the Southern to the Northern and Eastern regions over such long distances as to involve a freight of over Rs. 100.00 per tonne. For instance during this period (January-September 1973) average freight involved in sending cement from Talaiyuthu factory in the South

to the Northern region was Rs. 116.93 per tonne and to the Eastern region Rs. 117.14 per tonne. This brings into focus the urgent need for correcting regional imbalances so that the needs of the various regions are met more and more from factories nearby and unnecessary strain on Railways avoided.

30.1.8.3. *Average lead.*—According to the figures supplied by the Cement Controller the average lead for movement of cement during the period 1969 to 1973 (January-July) was as follows :

TABLE 30.6

Average lead between 1969 *and* 1973

Period	Average lead (Distance in Kms.)
1969	
1-1-1969 to 31-12-1969	476—480
1970	
1-1-1970 to 3-4-1970	491—495
4-4-1970 to 23-10-1970	541—550
24-10-1970 to 31-12-1970	571—580
1971	
1-1-1971 to 31-3-1971	531—540
1-4-1971 to 30-6-1971	521—530
1-7-1971 to 31-12-1971	531—540
1972	
1-1-1972 to 31-3-1972	531—540
1-4-1972 to 31-12-1972	531—540
1973	
1-1-1973 to 31-3-1973	531—540
1-4-1973 to 31-7-1973	471—480

30.1.8.4. *Reasons for increase in freight cost.*—The Cement Controller has explained the reasons for increase in the freight per tonne as follows :

"The freight per tonne has been increasing on account of two factors, namely.

(i) increase in freight rates effected by the Railways from year to year and also the increase in freight rates by Road transport.

(ii) necessity to move cement over long distances to meet the demands of deficit regions i.e. Eastern & Northern Regions."

"While the increase on account of (i) above cannot be helped, the increase arising out of (ii) can be avoided if the availability of cement in the Eastern and Northern Regions could be increased by establishing more cement producing units in these regions. As at present, the Eastern & Northern regions are deficit to the extent of 5 lakh and 23 lakh tonnes respectively, and cement has to be brought from the surplus Western and Southern Regions to meet the deficit."

"The deficit in the Eastern Region is likely to be wiped out in the year 1974 when Durgapur plant goes into production in March 1974 with an initial production at the rate of 3 lakh tonnes per annum which will be doubled soon after. As a result of this, the movements to this region from other regions will be totally eliminated and this will have a good impact on average freight."

"In the case of Northern region as well, two factories namely (i) at Nimbahera in Rajasthan and (ii) Tilda in Madhya Pradesh (Western Region) are likely to come up by September 1974. This should meet the existing deficit in the Northern region to a considerable extent and the long distance movement from Southern factories will be reduced to a substantial extent and consequently the average freight will also come down."

30.1.9. **Future prospects of Railway transport**

30.1.9.1. The C.M.A. has stated that while production of cement will go up with the expected expansion of the industry, the movement of cement by sea, road and rail cannot rise in proportion to such increase in production. Road movement beyond certain limit is uneconomic. Movement by sea has also its own limitation such as seasonal working of ports, availability of sea transport and increase in the cost of sea freight. Additional capacities coming up inland rather than near the port towns also create problems of transport. The C.M.A. feels that in view of the prime need for encouraging the development of the cement industry in and near the deficit areas of North and North-East, the Railways will have to depart from the past policy and will have to plan and provide for higher percentage of movement of cement. The C. M. A. estimates that provision by the Railways for movement of cement short of 85 percent of production will mean disaster for both the industry and the consumers.

30.1.9.2. The Railway Board has stated that the regional imbalance in the production of cement without any relationship to demand is encouraged to a great extent by the existence of a uniform f.o.r. price through the scheme of equalisation of freight, by which method rail transportation charges need not be taken into account by the producers while locating their plants. According to the Railway Board, the real costs of such long lead transportation of cement arise out of the need for deploying a large number of covered wagons over long leads and out of the need for provision of additional facilities for increasing section capacities over long stretches. With proper distribution of cement factories in different parts of the country in acordance with the demand, the Railways could have moved over 18 million tonnes of cement in 1970-71 instead of 11 million tonnes actually transported, by deploying the same quantum of resources. Since the demand for movement by rail at present is only to the extent of 13 to 14 million tonnes of cement per annum, if the cement factories were located close to the centres of consumption, the Railways could move the entire requirements by deploying only about 70 per cent of sources now being utilised. This clearly

indicates the strain on the Railway system due to location of cement factories different regions without any relationship to demand. However, the Railway Board is of the view that a more balanced location would increase the transportaton of limestone which poses less problems than the transportation cement. the Railway Board has therefore favoured a more rational location pattern on account of the enormous advantage which it would confer on the transportation system with a corresponding saving in avoidable investment in covered wagons as well as for line capacity works.

30. 1. 10. Part of the solution may be in locating most of the new factories in deficit areas. That will help to reduce the long haulage and other transport strains on the Railway system. But this will not solve the whole problem. The existing capacity of the industry amounting to 19.7 million tonnes of cement is planned to be increased to 33 million tonnes by the end of Fifth Plan, with a view to meeting the estimated demand of about 28 million tonnes. A major portion of this increased production of cement will have to be transported by the Railways. Even assuming that the Railways would have to cater for at least 70 per cent of the total despatches by the end of the Fifth Plan period, it would mean lifting of 20 to 21 million tonnes of cement by the Railways. This is no small task. *The Railway Board will, therefore, have to take suitable steps and plan for gradual increase in lifting capacities particularly in the cement producing and consuming centres. Some action will also have to be planned in relation to the points of bottlenecks dealt with in paragraphs* 30.1.5 *and* 30.1.6.4 *above.*

30.2. **Road transport**

30.2.1. At present about 20 to 30 per cent of the total despatches of cement are sent by road transport. There are a large number of areas where cement cannot be transported by Rail and it becomes necessary to resort to road transport. It is for this reasons that in working out the formula for reimbeursement of freight, road transport has been taken into account to a certain extent by the Cement Controller. This is clear from the following table.

TABLE 30.7

Formula for reimbursement of Road freight

Destination point or its Rail-head whichever is less situated		Rate of reimbursement
Upto 5 Kms. . .	By Road from the factory's loading point .	Rs. 3.50 per tonne
Above 5 to 100 kms. .	By Road from factory's loading point	Tariff rail freight plus weightage for siding distance.
Above 100 Kms. . .	By Road from factory's loading point	Maximum of 125 per cent of tariff freight or actual road freight whichever is less plus weightage for siding distance.

Source : C.M.A.

30.2.2. The producers have submitted before us both in their written memoranda as well as in the course of the public inquiry that in view of the shortage of wagons and bottlenecks in the transport by Rail, transport of cement by Road should be encouraged beyond the present limit of 100 kilometres.

30.3. *There is no doubt that the Railways are finding it difficult to meet the growing transport needs of the cement industry. The position is not likely to ease very much in the near future and Road transport may have to be resorted to more and more to avoid unnecessary hold ups. We feel that in the present stage of our economy it will be in our overall national interest to consider these two means of transport, viz., rail and road as complementary to each other rather than as competitive.* This approach is all the more necessary now in view of the oil crisis so that there is no wastage of national resources. *There is, therefore, greater necessity for coordinating the approach and*

thinking between the Railway authorities, the Cement Controller and the other authorities concerned in the matter of movement of cement by rail and by road so that the most rational pattern of transport is adopted. The existing limit of 100 kilo metres for Road transport may also be considered in this background and appropriately extended by the Cement Controller if the coordinated thinking points to that solution as the more satisfactory one.

31. Regional Imbalance

31.1. Closely connected with the problem of transport discussed in detail in paragraph 30 is the question of regional imbalance which is one of our terms of reference.

31.2. For the purpose of distribution of cement the Cement Controller has grouped the various States into four zones. Details of the groupings are given below. :-

North	East	West	South
Chandigarh	Assam	Gujarat (P)	Andhra Pradesh (P)
Delhi	Bihar (P)	Maharashtra (P)	Karnataka (P)
Haryana (P)	Orissa (P)	Madhya Pradesh (P)	Kerala (P)
Himachal Pradesh	West Bengal	Goa, Daman, Diu, Dadra, Nagar Haveli	Tamil Nadu(P)
Jammu & Kashmir (P)	Tripura		Pondicherry & Andaman & Nicobar.
	Manipur		
Punjab	Nagaland		
Rajasthan (P)	Arunachal Pradesh		
Uttar Pradesh (P)	Meghalaya (P)		
	Mizoram		

(P)—Where there is production capacity.

31.3. It will be seen that at present there are 14 States having production capacity (indicated P). While the production is limited to these 14 States the demand for Cement is spread over all the States in the country. This necessitates inter-State movement of cement from the surplus to the deficit areas.

31.4. The following Table compiled on the basis of the figures supplied by the Cement Controller indicates the extent of region-wise imbalance in the various zones arising out of the differences between the estimated demand, capacity established and actual production in 1972.

TABLE 31.1

Regional imbalance in demand, capacity and consumption in 1972

(In thousand tonnes)

	North	East	West	South	Total
(a) Actual capacity .	3,438	3,289	5,610	7,423	19,760
(b) Actual production .	2,723	2,491	4,461	6,038	15,713
(c) Estimated demand .	4,723	3,025	4,433	4,562	16,743

31.5. The capacity utilisation in 1972 was 80 per cent. If the capacity utilisation had been a little higher, the entire demand could have been satisfied as there was sufficient installed capacity available. The actual capacity utilisation for the period January-Septemebr 1973 for which the figures are available, was only 7 per cent. Projecting the figures for 12 months on this basis the position for 1973 would be as follows :—

TABLE 31.2

Regional imbalance in demand capacity and production—projected figures for 1973

(In thousand tonnes)

	North	East	West	South	Total
(a) Actual capacity .	3,438	3,289	5,610	7,423	19,760
(b) Production* . .	2,481	2,565	4,309	5,168	14,523
(c) Estimated demand .	5,346	3,407	4,984	5,137	18,874
(d) Surplus/Deficit (b-c)	(—)2,865	(—)842	(—)675	(+)31	(—)4,351

* Production for January-September 1973 supplied by the Cement Controller has been projected for 12 months. The actual capacity utilisation for the country in January-September 1973 was 74 per cent.

31.6. Regional imbalance in the cement industry has been attributed by some producers to the present system of freight pooling and fixation of selling price of cement on f.o.r. destination basis. This appears to be partly true as the freight pooling system has tended to encourage location of factories at places where abundant sources of good quality limestone are easily available without any consideration as to where the cement consuming centres are. However, other important contributory factors responsible for this lopsided development of the industry have been that cement grade limestone is not available uniformly throughout the country and that limestone deposits found in deficit zones are often reported to be of poor quality requiring beneficiation or are not easily accessible.

31.7. There are powerful arguments against allowing this lopsided development to continue and for correcting this regional imbalance. The present location of the cement factories causes a tremendous strain on the Railway system as detailed in paragraph 30.1.6.1. According to the Railway Board if the cement factories had been properly distributed in the country to feed the consuming centres nearby the Railways, by deploying the same quantum of resources, could have moved over 18 million tonnes of cement in 1970-71 instead of the 11 million tonnes they actually transported. With the present location of the cement factories a much larger number of covered wagons has to be deployed over long leads by the Railways apart from the provision of additional facilities for increasing section capacities over long stretches. There are also problems connected with provision of adequate terminal facilities and of transhipment from metre gauge to broad gauge and *vice versa*. Covered wagons are in short supply and if they were not required in such large numbers for this long cross country haulage they could be utilised for transporting other important cargo including food grains.

31.8. **Long lead and Freight Cost**

31.8.1. On account of the long lead involved, the consumer is not necessarily the beneficiary. A rational development of the industry implies easy availability of cement to

the ultimate consumer at the cheapest possible price. The present system is not the best suited for that purpose. Even as it is cement is in short supply. Any transport bottlenecks, howsoever temporary, tend to accentuate such shortages and encourage black marketing in cement. *Uniformity of f.o.r. destination price is certainly a desirable objective but any step that reduces the burden of heavy freight charges and long haulage of railway wagons without pushing up the final price of cement to the consumer will be a step in the right direction.*

31.8.2. A glance at Appendix 18 which gives the picture for the latest period (1.1.73 to 30.9.73) available indicates how inter-regional movement of cement pushes up the totality of freight charges. The South zone is a surplus zone. It satisfies its own needs and also supplies cement to other zones. It will be seen that whereas the average freight involved for satisfying the requirements of the South zone itself varies from Rs. 4.04 to Rs. 32.53 per tonne, the average freight incurred in despatching cement from this zone to the North zone has ranged from Rs. 71.94 to Rs. 116.93 per tonne. Similarly the movement of cement from the South zone to the East zone has involved a freight ranging from 85.80 to Rs. 117.14 in no less than 50 per cent of the factories which supplied cement to that zone during that period.

31.8.3. If there had been factories in the deficit areas of the North and the East, which are the main consuming centres, most of this freight would have been saved to the consumer apart from avoiding the strain on the Railways.

31.9 Unnecessary freight charges and unnecessary strain on the Railway system are in themselves powerful enough grounds for correcting the regional imbalance in the matter of location of cement factories. In addition, there is the question of utilisaztion of industrial waste material such as BFS and fly ash. Most of these supplementary raw materials happen to be available in the Northern and Eastern regions. The factories for their utilisation have, therefore, by and large, to be located in those regions. Their utilisation will also incidentally reduce the pressure on limestone resources. Though the limestone available in the deficit regions may not always be of good quality, it is in the national interest that a judicious

use is made of such limestone even with beneficiation etc., to prevent early exhaustion of good limestone quarries. There is thus a strong case for taking active steps to correct the regional imbalance in the development of the cement industry.

31.10. Additional Capacity

31.10 1. The Government are aware of the need for starting cement factories in the deficit areas. The Table below gives the existing capacity as on 1-9-1973 and the proposed additions to this capacity during the Fifth Plan period.

TABLE 31.3

Additional Capacity licensed in various Zones

(In thousand tonnes)

Zones	Capacity as on 1-9-1973	Proposed additional capacity	Total expected capacity in 1978-79
East	3,289	2,698	5,987
North	3,438	5,248	8,686
South	7,423	2,491	9,914
West	5,610	2,860	8,470
TOTAL .	19,760	13,297	33,057

31.10.2. It will be seen from the above Table that out of the additional capacity of 13 million tonnes, about eight million tonnes capacity is intended to be set up in the deficit zones of the North and the East. *This should go a long way in correcting the regional imbalance provided the intended new capacity in the various regions is really installed and secondly effective remedies are taken for removing the crippling effects of external constraints that inhibit production.* Both these are inescapable require-

ments and effective measures have to be taken to ensure fulfilment of both if Plan targets are to be achieved.

31.10.3. *When the additional capacity becomes a reality it will certainly restore an element of balance in these deficit areas. This will automatically reduce the need for long haulage and other transport strains on the Railway system. It will also bring down the average lead and consequently the freight costs.* The industrial waste materials such as BFS and fly ash would also be put to good use and increase the overall production and availability of cement.

31.11. Problem of moving cement to remote areas

31.11.1. While considering the question of regional imbalance there are certain deficit regions which need special attention. *These are areas far remote from the rail heads and difficult of access. Some of these areas, e.g., in Jammu & Kashmir Himachal Pradesh and the North Eastern regions are also of strategic importance. Their demand of cement may not be large but feeding them from cement factories far way involves heavy freight. Even then they get the cement at a price much higher than the f.o.r. destination price because of the additional heavy transport charges beyond the rail heads which are not reimbursable under the present freight pooling system. To correct the position somewhat we have suggested in paragraph* 33.7.2 *that where district towns are not connected by Railway, freight pooling should cover road transport of cement to such district towns also.* For areas beyond that it may not be administratively feasible to extend the freight pool. The basic principle underlying the freight pooling system is that there should be a uniform price to the consumer all over India so far as posible. It will be in keeping with this underlying principle if a scheme is devised to provide cement to these remote areas also at as near the f.o.r. destination price as possible. *In some of these areas abundant limestone deposits are available. Cement plants can be put up in these regions to exploit these deposits. Requirements of these areas may not be large. Otherwise also there may be difficulties in transporting equipment for bigger plants. Relatively smaller units may, therefore, have to be set up in such areas. Small shaft kiln plants may also be tried if the experiments that are at present going on to test the viability of such plants prove successful.*

31 11.2. *The cost of setting up and working small plants in these for off places is likely to be higher; so also the cost of quarrying and transport of limestone on account of the difficult terrain involved. Part of this higher cost will be taken care of by the measures that we have recommended for encouraging setting up of new units.* Those measures by themselves may not however suffice for the extra high cost of the new plants in these remote areas. *Since the desideratum is to supply cement to these areas also at as near the uniform all-India price as possible plants set up in these aseas should get some assistance from the freight pool as installation of such plants will save heavy freight charges that would otherwise have been incurred if cement were to be supplied to these areas from distant factories. One way of affording this assistance would be for the producer to be given the f. o. r. destination price by the Cement Controller but allowed to retain to himself the whole or part of the difference between the average all-India freight and the freight incurred by the factory in the despatch of its own cement to the nearby areas allotted to it.*

31.12 Responsibility of the State Governments

Starting of new factories in the deficit regions would be of great benefit to the State Governments concerned. *It would therefore, be desirable if they could also consider various steps that would encourage setting up of such factories in their areas speedily. They could, for instance, consider taking inter alia, the following steps viz.,*

(a) develop the areas where limestone deposits are found in the State;

(b) develop the infra-structure in these areas to make it economical for the intending producers to establish cement units there;

(c) assist them in securing suitable sites at reasonable cost for setting up their factories etc.;

(d) assure regular power supply to such cement units and at concessional rates if possible; and

(e) consider giving special assistance by way of concessional royalty and other possible reliefs.

32. Split location

32 1. The normal set up of a cement producing plant, particularly after the freight pooling system came into existance in 1956 is to have its various components such as the limestone quarries, the clinker plant and the cement grinding and packing plant situated in the vicinity of each other. Sometimes, however, there is departure from this conventional set up and what is known as split location is resorted to. When this is done, the clinker capacity is established near the source of the raw material,namely, limstone quarries while the cement grinding and packing plant is established at a different site, usually near some centre where cement is consumed in sufficiently large quantities.

32.2. So long as limestone was being utilised as the principal raw material the idea of split location was confined within the above narrow scope. However, the situation has been changing over the years due to two factors. There has been substantial increase in the production of steel in the country and as a result, large quantities of BFS which can be utilised as a supplementary raw material for the production of cement are becoming available. Secondly, a number of thermal plants have been and are being set up in the country and as a result, fly ash which can also be used as supplementary raw material for the production of PPC is becoming available in larger quantities.

32.3. As a result of the above developments, the idea of split location has to be examined from various angles, particularly from the point of view of the increased use of BFS and fly ash as supplementary raw materials for the production of cement. The various factors which have to be examined are the economics of the proposition depending upon the locality, demand for cement, availability of raw materials such as clinker, BFS and pozzolanic materials like fly ash, facility for putting up a grinding unit with only clinker as raw material or with admixture of raw materials such as clinker and BFS or fly ash, blending or inter-grinding of these

various raw materials etc. These various aspects are dealt with below :

32.4. Production of clinker near the source of the principal raw material, namely, limestone and setting up of a grinding unit at a different site, preferably near a consuming centre, is one type of split location. It was this type of split location which was referred to by the Commission in its 1961 Report when it made the following recommendation:

> "Split location in cement industry whereby the clinker capacity is established near the limestone quarries and the cement grinding and packing plant is established near important consuming centres is a desirable development. Such proposals in future should be given sympathetic consideration by Government".
>
> [Paragaph 17.4]

The existing split location of Shree Digvijay Cement Company which has its clinker unit at Sikka (Gujarat) and grinding units at Sewree (Bombay, Maharashtra) and at Ahmedabad (Gujarat) falls under this type of split location.

32.5. The success of such split location depends upon the internal economics of the manufacturing unit concerned. Various problems which are encountered in operating this type of split location were mentioned before us. The following difficulties were enumerated in this connection.

(i) Split location would require duplication of certain facilities such as clinker handling and stroage system, H.T. power receiving equipment and maintenance of workshop.

(ii) The land for the grinding plant would be located near an urban area and hence would be more expensive.

(iii) More sophisticated dust suppression equipment will have to be provided at the grinding-cum-packing plant to meet the more stringent requirements for dust suppression in urban areas.

(iv) A large number of supervisory and maintenance personnel would be needed thereby increasing the overheads as compared to the overheads in the case of a composite cement plant.

(v) There will be higher power costs for cement grinding and packing plants since for the units of KWH consumed, the payment will have to be made at higher rates etc., than in the case of a composite unit which on account of its larger consumption will require payment at a lower slab rate of the electricity tariff.

It was also stated that the heavy additional capital outlay which is involved in setting up split location is approximately of the order of Rs. one crore.

32.6. At present some incentive is being provided to encourage split location of the above type. Normally transport charges of the finished product, namely, cement are being reimbursed through the freight pool arrangment. This principle is extended in the case of split location to freight on movement of clinker. *Thus, expenditure on freight for movement of clinker from the clinker producing plant to the grinding plant is being reimbursed from the Cement Regulation Account. Such reimbursement is being allowed in the case of Shree Digvijay Cement Company which, at present, is the only cement unit with split locations. However, since their grinding plants are situated at the consuming centres of Bombay and Ahmedabad, for which their cement is meant, the question of reimbursement for the transportation of cement beyond these consuming centres does not arise.*

32.7. In this type of split location where the movement of clinker is involved, the only aspect which is of importance is the economics of the proposition. It is significant to note that apart from Shree Digvijay Cement Comapny there is no other manufacturer that has gone in for split location so far. We also understand from the Cement Controller that though he has been pursuing the idea of split location with the industry, there is no evidence of the scheme becoming popular. In this connection the Cement Controller has indicated that one of the reasons for this situation is that unless the producer is

reasonably assured about the continuance of the freight pooling arrangement, he would not risk the heavy investment involved in setting up a separate grinding unit.

32.8. *We haue suggested in paragraph* 33.6 *that the freight pooling system should continue to operate. Furthermore, to encourage split location, the principle of reimbursement of freight normally applicable to cement should be made available to the movemet of clinker also as is being done at present in the case of Shree Digvijay Cement Company. This should provide the necessary incentive to the industry, for planning split location for their plants.*

32.9. We find from the communications received by us from some of the State Governments such as West Bengal, Uttar Pradesh, Bihar, Gujarat, Delhi Administration, Orissa, Maharashtra & Pondichery that, they are interested in assisting the manufacturers in the matter of securing suitable sites for setting up grinding units in addition to offering other assistance on merits. *If the Cement Controller takes the initiative in the matter, it is quite possible that other State Governments may also be prepared to extend suitable incentives in this regard.*

32.10. *With the increased availability of supplementary raw materials such as BFS and fly-ash the concept of split location has received a fresh impetus and has assumed a new dimension.* Actualy in such cases spilt location is inevitable if these materials are to be utilised for inter-grinding with clinker for production of cement.

32.11 The BFS is the industrial waste of steel plants. To be usable for inter-grinding with clinker it has to be granulated. Some steel plants have already put up granulating units. Others are proposing to do so in the near future. For inter-grinding with clinker either clinker has to move where BFS is produced or *vice versa* or both have to move to a third location if the inter-grinding unit is situated there. *No inter-grinding unit can be put up without alicence from the Ministry of Industrial Development. When licensing the inter-grinding unit for production of PBFS cement the authorities concerned will have to take great care to ensure that its location is such that the movement of clinker, BFS or of both is in the logical forward direction towards the cement consuming centres. This precaution is all the more necessary because it*

will not be only one unit which will be producing PBFS cement. As will be seen from the Table 20.1 *attached to paragraph* 20.2.1 *a number of present cement factories can get BFS from the same steel plants.* It would not, therefore, do if all of them were to put up their inter-grinding plants near steel plants itself as production up too much PBFS cement at the same place might create problems of movement of such cement in the logical forward direction.

32.12. As is clear from the Table 20.1 the production of BFS is going to be plentiful. It will, therefore, not be one but many factories located at different places that will be interested in producing PBFS cement. *Since the price of PBFS cement will also be controlled it will be necessary, as indicated in paragraph* 20.2.8 *that all factories which are licenced to produce PBFS cement should get this supplementary raw material at a uniform price. We have also recommended in that paragraph that the fixation of price of BFS should be done by a Coordinating Committee so that the price of this supplementary raw material remains stable and reasonable. In order that all concerned factories may get the BFS at the same price, it is necessary that freight charges on movement of BFS also are pooled and become part of the general freight pooling system. Thus the freight will have to be pooled on movement of clinker also as suggested in paragraph* 32.8.

32.13. When both clinker and BFS are made part of the freight pooling system, the question naturally arises as to whether the cement produced from the inter-grinding of such BFS and clinker should also have the benefit of the freight pooling system. *This will really depend on where the inter-grinding unit is located. If it is at a consuming centre and the Cement Controller has allocated only that consuming centre for the consumption of the entire cement produced in that inter-grinding unit the question of granting further freight charges to such cement will not arise.* This for instance is the position with Shree Digvijay Cement Co., whose grinding units are located at the consuming centres of Sewree (Bombay) and Ahmedabad and the cement produced from these grinding units is intended only for those consuming centres respectively. *One can however, visualise a position where the cement produced by an inter-grinding unit, whether it is located near a steel plant or a clinker*

plant or a consuming centre, cannot be wholly consumed in its immediate neighbourhood. It will, therefore, have to be moved to other consuming centres as allocated by the Cement Controller. There is no reason why such movement, which has the concurrence of the cement Controller, should not form part of the freight pooling system even though the movement of clinker and BFS to the inter-grinding unit for the production of this cement might have also participated in the freight pooling system. It needs to be stressed that all this assumes that the licence for the inter-grinding unit has been granted with due care to ensure that whether it is clinker, or BFS, or cement produced from that clinker and BFS, they all move in their logical forward direction towards the ultimate cement consuming centres. If licences were to be granted indiscriminately without regard to this basic principle the whole system of freight pooling and rational split location will get a jolt and there will be no escape from unnecessary cross-country movement of BFS, clinker and cement as well as the consequential strain on the Railway system and the undue inflation of the freight burden on the consumer.

32.14. *What has been said about BFS above will apply* mutatis mutandis *to fly ash also. As a practical proposition, however, it is likely that the inter-grinding unit may have to be located at or near the thermal station where fly ash is produced. This is because of the difficulty of transport of a material like fly ash. Moreover, most of the thermal plants happen to be situated near the big cement consuming centres and it may, therefore, be more practicable to move the clinker to the production centre of fly ash rather than* vice versa. *Anyway, whether the fly ash has to move to the clinker or the clinker to the fly ash or both to a third place for inter-grinding will depend upon the overall economics of the production of PPC and the policy followed by the Government for licensing such inter-grinding plants. As in the case of BFS/clinker, movement of fly ash also will become part of the freight pooling system. So also the movement of PPC if, under the allocation orders of the Cement Controller, it has to move to consuming centres away from the place of the inter-grinding unit.*

33.1. The circumstances under which the concept of freight pooling was evolved and introduced have been

33. **Freight Pooling** briefly dealt with in paragraph 1.3.1.2. The question of freight pooling arrangement was *inter-alia* reconsidered by the Government sometime in the year 1969. Taking all the relevant factors into consideration the Government felt that the continuance of freight pooling arrangement would be in the interest of the consumer at large as mentioned in paragraph 5.4.1 and decided to continue it. The average freight on the basis of which the freight pooling works, forms part of the Cement Regulation Account.

33.2. Under clauses 9 and 11 of the Cement Control Order 1967, the Cement Controller maintains the Cement Regulation Account. All the producers who incur an actual freight expenditure more than the all India average freight provided for in the f.o.r. destination price, are reimbursed the excess expenditure incurred by them from the Cement Regulation Account, while those producers who incur an actual freight expenditure less then the all India average are required to pay the difference into the Cement Regulation Account.

33.3. In the course of the present inquiry, we have obtained the views of the various producers, State Governments etc., on the question at freight pooling. The matter was also discussed in the course of the public inquiry.

33.4 Arguments for and against

The producers are divided in their opinion. Some have favoured the continuance of the freight pooling arrangement while others are opposed to it.

33.4.1. Some of the producers while conceding the advantage of the freight pooling arrangement have pointed out certain drawbacks arising out of the inadequate reimbursement of expenditure by road transport and pleaded that the present arrangement should be relaxed further and the expenditure for transport of cement by road from the factory to distances beyond 100 Kms should also be allowed. Some others, on account of the special difficulties suffered by them, pleaded, that the disadvantage of higher

transport cost of limestone in deficit areas should also be compensated either by a differential retention price of their cement or by including the freight of limestone also within the ambit of freight pooling.

33.4.2. The reasons advanced by the producers who have not favoured the system of freight pooling are summarised below :

(i) The present freight pooling system does not provide for equalisation of transport charges to every place in India. In remote areas, particularly hilly regions, which are far removed from the rail heads, cement sells at a very high price because of the heavy transport costs involved which are not reimbursable from the freight pool under the present system.

(ii) It discriminates against consumers in areas where plants are situated as, such consumers in the vicinity of cement factories do not get the benefit of lower freight expenditure and they have to subsidise the freight for consumers in distant markets.

(iii) Because of the freight pooling arrangement factories are being located without considering the nearness to the consuming centres.

This creates transport bottlenecks and artificial price by not allowing the consumer to pay what is the realistic price of cement, giving rise to irrational conditions in the market thereby encouraging malpractices and black-marketing.

33.4.3. **Views of the State Governments**

33.4.3.1. Some of the State Governments have supported the continuance of the freight pooling arrangement. The reasons given for such support are (i) it benefits the consumer even at the farthest corner as it helps in smooth movement of the supplies from surplus to deficit areas and in eliminating pockets of scarcity, full offtake is also ensured, (ii) the burden of freight is shared equally by all consumers; (iii) it ensures a uniform selling price all over the country, and (iv) it

prevents exploitation of the market by producers situate in the deficit areas.

33.4.3.2. The Uttar Pradesh Government while agreeing that it is essential to retain the system of freight pooling, has suggested that such arrangement has led to a lopsided growth of the industry frequently resulting in cross movement and transport bottlenecks. It has, therefore, contended that freight pooling should be made on regional basis instead of on the present all India basis. According to that Government, each factory should have sufficient area within its marketing zone to enable it to sell its entire production in that zone which should be kept within a short distance from that factory. This will restrict the cross movement of wagons resulting in their better use. The views of the State Government have been supported by the Uttar Pradesh State Cement Corporation mainly on the ground that freight pooling on zonal basis would provide necessary incentive for setting up new factories in far off zone.

33.4.3.3. *The suggestion of the Uttar Pradesh Government does not appear to be practicable. The arrangement of freight pooling on a regional basis cannot be implemented unless a particular region is just self-sufficient, neither surplus nor deficit and can be completely sealed off from other regions. In the absence of such sealing there is bound to be inter-regional movement, clandestine or otherwise, with its attendant difficulties. The suggestion made by the Uttar Pradesh State Government cannot, therefore, be accepted.* We may, however, add that we have elsewhere in this Report suggested various measures for reducing the regional imbalances. *When the regional imbalance gets reduced, the incidence of average freight will also automatically get reduced and the objective that the Uttar Pradesh State Government has in mind will be achieved to a considerable extent.*

33.5. We have considered the views placed before us both for and against the continuance of the present system of freight pooling. It appears to us that the advantages of the system for outweigh the disadvantages. These advantages in the main are :—

(i) A basic commodity like cement will be available all over India as equitably and at as uniforn a price, as possible.

(ii) With the present pattern of location of the industry and consumption, cement has necessarily to be moved from surplus zones to deficit zones and such movement would suffer without the freight pooling and coordinating arrangements.

(iii) As Government is the largest consumer, the cost of various departmental projects will be seriously affected by the cost of transport in the absence of such an arrangement and the cost of similar projects in different parts of the country will come to vary vastly.

(iv) In the absence of freight pooling, the producers will be interested in selling their production mostly nearer the factory giving rise to scarcity pockets in the deficit areas.

(v) The producers in the deficit areas will make additional profit by way of freight inasmuch as at any particular place the price will tend to stabilise at levels at which the farthest producer can supply cement. Producers in the surplus areas will tend to charge a higher price on the alleged ground of having to supply to distant areas. In either case there will be no certainty of any reduction in price for the consumer even situated near the factory if the freight pooling is abolished.

(vi) The rail transport has at present certain bottlenecks at almost all transhipment points as well as in certain sections, particularly Ghats, in important arterial rail roads. In the absence of a freight pooling and coordinating arrangement to rationalise the movements and avoid criss-cross movements and also to provide for movement from alternative sources of supply in the event of restrictions by meagre wagons supply due to heavy foodgrains movements or major break-downs, strikes or lay offs at some factories, instances of shortage will be emphasised unduly and the prices will fluctuate widely to the detriment of the consumer.

(vii) While multi-unit producers will be in a position to operate the freight pooling to their advantage, the small and single unit producers not having the facility of such pooling will not be in a position to do so. This will entail considerable hardship on them.

33.6. *We are, therefore, of the view that in the interest of our overall economy and that of the consumer, freight pooling system should be continued. Even when cement factories come up in deficit areas and average freight gets reduced, freight pooling may still have to continue to ensure equal availability and uniform price of cement all over the country. However, the position may be reviewed towards the close of the Fifth Plan period to see if any modifications are called for in the system.*

33.7. *There are however, certain directions in which, we feel, the present freight pooling system needs to be extended in the interest of the cement industry and that of the consumer.* These aspects are discussed below.

33.7.1. At present the Cement Controller allows reimbursement of transport charges by road on certain basis upto 100 Kms. from the factory. As suggested in paragraph 30·3 *the Cement Controller should keep in close touch with the Railway Authorities and, if necessary, extend the present limit of* 100 *Kms. suitably for reimbursement of transport charges by road.*

33.7.2. In the present system of freight pooling, reimbursement of transport cost is usually made to the railhead. *We have considered as to whether reimbursement only up to the railhead is fair to all consumers of cement. Apparently railhead has been chosen as a point upto which reimbursement from the freight pool is admissible because of two factors, viz., (i) it is perhaps administratively easy to operate the freight pool by adopting the railhead as the ultimate destination, and (ii) with the widespread network of Railways in the country it can, by and large, be assumed that the distances beyond the railhead to which cement might have to be carried to reach the consumer would be comparatively small.* It appears to us that the second assumption may not be quite correct. There are distant pockets in the country where cement may have to be transported by road over long distances beyond the railhead

thereby increasing the cost of cement to the consumer in such areas appreciably higher than the average. As indicated in paragraph 33.4.2 (i) one of the grounds on which the freight pooling system was opposed by some producers was that the present system does not provide for equalisation of transport charges to every place in the country. *We appreciate that it may not be administratively feasiable to cover all places in the country. We, however, feel that taking into consideration the spirit in which the freight pooling system was evolved, it would be more equitable if in the areas which are not covered by the rail system the district town is adopted as the ultimate point of transport to which, beyond the railhead, is also covered by the freight pooling system. It is not our intention that the transport charges to places in between the railhead and the district towns should also be covered. Supplies to such places will be made from the railhead or the district town in the usual way. So also the supplies to places beyond the district town. The Cement Controller may consider the feasibility of this proposal.*

33.7.3. At present, the freight pooling system applies only to cement. It was extended in the case of Digvijay Cement Company to cover movement of clinker from its Sikka factory to its grinding units at Ahmedabad and Sewree (Bombay). *For the reasons detailed in paragraph 32.12 to 32.14 we consider that the freight pooling system should be extended to include movement of : (i) clinker, BFS and fly-ash to the grinding/ inter-grinding unit and (ii) cement from the inter-grinding unit onwards provided all such movements are in the logical forward, direction towards the cement consuming centres.*

33.7.4. As elaborated in paragraph 31.11.2 *an appropriate part of the high cost of setting up and working of cement plants in remote/inaccessible areas should be reimbursed from the freight pool.*

33.7.5. **Limestone Transport Cost and Freight pooling**

33.7.5.1. One of the important elements of the cost of production of cement is the cost of transport of limestone from the quarries to the factory site. The examination of cost of production of the costed units indicates that the

cost of transport of limestone has varied from Rs. 0.95 per tonne to Rs. 16.00 per tonne of cement, during the costed period. It was submitted to us that this aspect should be taken note of and suitable relief provided to those units in whose case the transport cost of limestone is very high. As a general proposition there can, however, be no question of providing any relief on this account. When a uniform retention price has to be fixed for an industry as a whole an overall picture of all the elements of cost of unit has to be considered by us and not that of each item in isolation.

33.7.5.2. However, *there is one distortion, though perhaps unintended, that crept in as a consequence of the introduction of the freight pooling system in* 1956 *which, in our opinion, needs correction. The corrective action also will obviously has to be taken through the freight pool.*

33.7.5.3. When an entrepreneur sets up a cement factory he has to take into consideration the economics of the proposition as a whole as he has to sell his product in the market in competition with that of the other producers. He locates his factory whether near the quarry or near the consuming centre after taking into consideration, *inter alia* the cost of transport of limestone from the quarry to the factory site and of the cement from the factory site to the consuming centre. What is of importance is his seling price to the ultimate consumer and whether this selling price is competitive. This equilibrium of competitive pricing of the final product cement, however, got artificially disturbed by the system of freight pooling in 1956. Under this system the freight expenses (in excess of the all India average freight) in transporting cement to the consuming centres in a way came to be underwritten by the freight pool. It, therefore became advantageous to the producers to set up their factories nearer to the limestone quarries irrespective of where and how far the consuming centres were. The obvious result was a marked disadvantage to such of the cement units as, at the time of the freight pooling, happened to be located away from their quarries. Actually the post-freight-pooling factories got a double advantage over their pre-freight pooling competitors. Their cement freight was looked after by the freight

pool. Their proximity to the limestone quarries gave them the further incidental advantage of having relatively much smaller transport cost of their limestone than their pre-freight-pooling competitors. *Where the quarry was located at a distance from the factory site and the transport of limestone had to be made by rail, the disadvantage became still more marked because transport by rail involved double handling,* i. e. *in addition to the rail freight involved, transport cost of carrying limestone to the rail-head and loading it into wagons and again of unloading it at or near the factory site and carrying it to the factory had to be borne. It is this distortion in the economics of some of the pre-freight-pooling units vis-a-vis that of the post freight-pooling units that needs correction. This distortion was of no consequence so long as individual retention price was fixed for each cement unit. With the fixation of a uniform all-India price, however, the economic effect of this distortion became an unjustifiable burden which needs being taken note of.*

33·7·5·4. *This distortion, of course, does not apply to the factories* inter se *that were set up after the freight pooling system came into being. if any such factory was set up away from the limestone quarry it must have been done by the entrepreneur in full knowledge of its consequences and after taking into consideration the entire economics including the advantages and disadvantages of the freight pooling system. No correction would therefore be necessary in their case.*

33.8. *We have travelled a long way since freight pooling system came into being. Any remedy that we may think of now can apply only to the pricing period with which we are concerned in this Report. At this stage though we feel the genuineness of the grievance of the affected factories—there are, in all, only a few such factories—it is not possible for us to quantify the relief needed. Obviously the relief needed will vary in the case of each factory depending on its merits.* For judging the quantum of relief one has to be aware of the position of the quarries as it existed at the time of the introduction of the freight pooling system. *Acquiring new distant quarries after that date will not give the affected factories any special claim.* That may be the position in the case of many post-freight pooling factories also. *In our final cost schedule we have taken into consideration the weighted average of limestone transport costs of all the costed units. This weighted average itself should give the affected factories some relief. We realise,*

however, that this may not be adequate and some of them may still have some genuine grievance. We suggest that if any such pre-freight-pooling factories feel that their transport charges are unduly high on account of the location of their quarries as they existed at the time of the start of the freight pooling system they may approach the Cement Controller who should, in each individual case, decide how much relief, if any, is necessary and what portion of the excessive transport charges of their limestone is to be reimbursed from the freight pool. As indicated earlier no relief will be admissible to the factories that came into existence after the freight-pooling system was introduced.



CHAPTER XI

DISTRIBUTION SYSTEM AND FINAL SELLING PRICES OF CEMENT

34.1. The present inquiry is a comprehensive one with wide terms of reference. Distribution control is closely connected with price control. As numerous complaints have been received by us from the consumers, it is necessary for us to touch upon some aspects of distribution control and selling system also even though briefly.

34. Distribution.

34.2. General aspests of Distribution

34.2.1. From the year 1956 onwards the S. T. C. was in charge of the distribution system till the beginning of 1966 when control on cements was lifted. Thereafter, for a period of two years, namely, 1966 and 1967 distribution was under the management of C. A. C. O. Controls were reimposed from the beginning of 1968. Control on price and distribution of cement is at present exercised through the Cement Control Order 1967 made under Section 18(G) of the Industries (Development & Regulation) Act.

34.2.2. The entire distribution system is at present being managed by the Cement Controller. He has four regional offices to deal with four zones in which the country is divided. Under Sections 3, 4 and 5 of the Cement Control Order 1967, the Central Government has, *inter alia*, powers to prohibit removal, to direct sale or transport or disposal of stock of cement and to issue necessary directives to the procedures in this regard. The distribution control exercised by the Cement Controller is designed to be a simple mechanisum for equitable distribution of cement, particularly with a view to catering the supply of cement to deficit areas by transport thereof from the surplus areas.

34.2.3. Reserved And Free Sale Categories

34.2.3.1. The entire sale and distribution of cement produced by the various manufacturers is grouped into two categories, namely the "reserved category" and the "free sale category" also known as "stockists category". The following figures compiled from the infrormation supplied to us by the Cement Controller show the distribution of cement for reserved and free sale categories.

TABLE 34.1

Proportion of Reserved and Free Sale Categories in the despatches of cement

Year	Despatches	Reserved Category	Free sale
	(Thousand tonnes)	(%)	(%)
1968	11,560	41.0	59.0
1969	13,355	42.3	57.7
1970	13,624	38.6	61.4
1971	14,542	40.8	59.2
1972	15,487	42.8	57.2
1973 (Jan-Sept.) . . .	10,525	64.3	35.7

(% as per cent of Despatches).

Source : Cement Controller.

34.2.3.2. The first category, namely, the Reserved category comprises indents from Government departments *i.e.* the rate contract parties as well as the public sector undertakings, State Government departments and priority industries which consume cement regularly and in large quantities. In respect of the supply under this category the concerned manufacturer cannot make any alterations

in the quota of supply unless he is authorised to do so by the Cement Controller. Under the Second category, namely, Free Sale category, each manufacturer is allotted a definite marketing area in which he can effect sales of this category without any restrictions and without taking any directives from the Cement Controller. In other words, the producer concerned has full freedom to sell any quantity to any custumer out of the overall quota allotted to him under Free Sale in his specified marketing zone without seeking the prior permission of the Cement Controller. In exceptional circumstances, the Cement Controller can naturally issue specific directions to the producer which the latter has to observe.

34.2.3.3. The figures set out in Table 34.1 above indicate that upto the year 1972, the sales under the Free Sale category were to the extent of about 58 to 60 per cent of the total despatches of cement. Since 1972, however, the situation has changed and during 1973 for the nine months ended September 1973, the sales under the Free Sale category were to the extent of only about 36 per cent. This steep fall in the proportion of the sales under the Free Sale category has led to an acute scarcity in the open market giving rise to various types of complaints from the consumers.

34.2.4. **Marketing Zones**

34.2.4.1. As already mentioned above, each producer is allowed a definite marketing zone for sale of cement under the Free Sale category. Each producer is allowed to build up his own net work of stockists within his marketing zone. There appear to be no hard and fast rules in the constitution of the various marketing zones for the various factories. The Cement Controller arranges the marketing areas with a view to ensuring that no factory is given any exclusive marketing zone thereby preventing monopolistic tendencies. The marketing zones are also defined keeping in view the availability of transport resources and are so arranged that cement moves from the surplus to deficit areas and not *vice versa*. Movements from one surplus area to another surplus area are avoided as far as possible. Sometimes, factories may be given marketing zones outside their States if such

areas are contiguous to those factories and fall within the natural marketing zones. For example, factories like Panyam, Ramagundam and Mancherial have wide marketing zones in Maharashtra State, even though they are not situated in that State.

34.2.4.2. The various marketing zones are reviewed by the Cement Controller, if necessary, taking into consideration the developing situation in the industry with the coming up of new units, expansion of the existing units, transport problems faced by the Railways etc. Thus the policy relating to marketing zones is flexible and the Cement Controller makes suitable adjustments whenever needed.

34.2.5. *It may be recalled that the Commission in its* 1961 *Report had recommended (vide paragraph* 20.2 *of the Report) that Government Authorities and project authorities as the largest consumers of cement should programme their indents evenly throughout the year so as to cause the least disturbance to cement production and also to avoid strain on the Railways in seasons of peak transport. In the context of the acute shortage of cement which is prevailing at present, this recommendation is valid even now and in fact assumes even greater importance. We therefore reiterate this recommendation for effective implementation.*

34.3. Complaints connected with distribution

The first problem connected with distribution of cement relates to the mobilisation of supply *vis-a-vis* demand in the various regions/States under the overall supervision of the Cement Controller. The Second problem relates to the various complaints emanating from the actual users of cement in the matter of insufficient supply, quality of the cement supplied etc. These aspects are dealt with below :

34.3.1. Mobilisation of supplies by Cement Controller

34.3.1.1. In respect of the matter of supply *vis-a-vis* demand, we are informed by the Cement Controller that there have not been any serious complaints except that in the matter of supply to the deficit areas where the demand

is continuously increasing neither the industry has adequate capacity to supply nor have the Railway sufficient rolling stock to provide transport. We also understand that the Cement Controller has been receiving numerous representations from the various State Governments in the matter of short supply or non-supply of cement. The Cement Controller, however, claims that as and when such complaints are received he has been taking steps to draw up crash programme for rushing necessary supplies. For instance, in respect of the States of Assam, West Bengal, Orissa, Delhi, Himachal Pradesh, Punjab and Jammu and Kashmir which are either States with sensitive areas or States requiring cement in large quantities, the Cement Controller is stated to have taken special measures to accelerate supply of cement to such regions even by allowing movement of cement by rail over long distances of 1000 kms. and more although such movements would obviously be uneconomical. He has also permitted in special circumstances movement by road over long distances. The Cement Controller has also allowed the industry to operate a number of dumps for stocking cement at various points and permitted sea movements liberally though such movements are costly from the point of view of freight-pool. It is claimed by him that he has been able to increase the total despatches to the maximum extent possible in spite of a number of difficulties faced by him by adoption of the above measures.

34.3.1.2. *There can be no two opinions that the task faced by the Cement Controller in the matter of arrangement of distribution of cement over the entire country is not an easy one. We are happy to record in this connection that in the discussions that we had in the course of the public inquiry it was the general opinion of the representatives of the industry as well as the consumers that within the constraints under which the Cement Controllor has to operate, he has been discharging his responsibility in this regard quite satisfactorily.*

34.3.2. **Complaints from consumers**

34.3.2.1. The complaints from the actual users of cement are twofold. The first is regarding the quality of

cement being supplied to the actual consumer. This aspect has already been dealt with by us to some extent in paragraph 28.4. The second complaint is regarding the short supply under the Free Sale category.

34.3.2.2. It may be recalled that in the course of the last inquiry in 1961, allegations were received by the Commission about black-marketing in cement and exploitation of consumers by corrupt practices. *In this connection the Commission had in paragraph 20.4 of its Report observed that when control exist they should be properly enforced by local authorities and that better control has to be exercised by the cement factories and their sole selling agents over the lower tiers of distribution system. Complaints similar in nature to those voiced at the time of the 1961 inquiry have again been made in the course of the present inquiry. We reiterate, for necessary action, the recommendation made by the Commission in 1961.*

34.3.2.3. Most of the producers have claimed that they have a well knit system for supply of cement to consumers through stockists. A few of the producers have appointed selling agents. It is, however, alleged that the situation of acute shortage of cement is exploited by the dealers/distributors or the selling agents and sometimes the management of the factories is in league with them in such malpractices. It is, for instance, alleged that dealers collect full payment for supply of cement in advance but do not supply the full quantity of cement thus upsetting the schedule of the construction activities of the consumers, while at the same time blocking their funds without any return. It is stated that adulteration of cement is widely resorted to and there is tampering with the packing and the supply is some times underweight. There is also a wide-spread practice of charging exorbitantly high prices much above the controlled price of cement.

34.3.2.4. Another common complaint is that there is leakage from the Government quota of cement which finds, its way into the open market. We understand that the Cement Controller has already issued instructions to departmental consumers coming under the Reserved category

to scrutinise their demand properly before placing their indents with the Cement Controller. *We also feel that greater check and more effective supervision by the indenting Government departments, public sector undertakings and other organisations concerned is called for to plug this potential sources of leakage.*

34.3.2.5. As regards the various malpractices alleged to be indulged at the stage of the ultimate distribution of cement, the producers have an important role to play. *The producers must display a greater sense of responsibility and exercise a greater degree of vigilance so that malpractices on the part of their dealers are stopped.*

34.4. *The root cause of the entire problem of malpractice is of course, the acute shortage of cement. The main solution therefore lies in stepping up the production so that the existing situation of scarcity is remedied. Various measures that we have suggested in this report are,* inter alia, *aimed at that objective.*

35. Final selling prices of Cement

35.1. Under clause 10 of the Cement Control Order maximum price at which cement is sold by a dealer (wholesale or retail) is fixed by the respective State Governments having regard to the following factors :

(a) F.o.r. price

(b) Handling charges and local transport charges

(c) Godown charges

(d) Stockists margin of profit

(e) Local taxes

(f) Additional road transport charges, where allowed. The retail prices of cement fixed by the various State Governments as furnished by the Cement Controller, are given at Appendix 19. It will be seen from this Appendix that not only do the retail prices vary from State to State but that they are also widely different from one another.

35.2. In arriving at the final retail prices of cement, various levies imposed by State Governments have to be taken into consideration. Such levies mainly consists of sales tax, surcharge, entry tax, incidental charges, octroi duties, local transport charges etc. In view of the multiplicity of such levies by individual State authorities on a basic essential product like cement, the C.M.A. as well as State Governments were requested by us to indicate whether they were in favour of reducing such multiplicity of levies and converting them into a single duty. The C.M.A suggested that in order to avoid operational difficulties and reduce administrative work it would be helpful if some of the taxes levied by individual State Governments were merged into some Central levy and the proceeds shared appropriately by the concerned authorities. The C.M.A. has also suggested merger of excise duty, sales tax and octroi in order to eliminate the multiplicity in taxes and to facilitate collection of such taxes. The reactions of the various State Governments varied to a considerable extent. The Governments of West Bengal, Delhi Administration, Pondicherry and Bihar have stated that they are in favour of reducing the multiplicity of levies on cement and convert the same into one single levy. The Government of Gujarat have stated that the proposal is sound but added that any such move should not in any way have an adverse effect on the State/Central receipts. Government of Uttar Pradesh has stated that the present levies on cement imposed by that State are not causing any hinderance to free trade and movement of cement and hence that Government is not in favour of replacing them by any single levy. We have had no response from the other State Governments to our query in this regard.

35.3. We consider that a product like cement which is of vital importance to the national economy should be available all over India at a uniform, or almost uniform price as far as possible. Subject to the restrictions required in the interest of equitable distribution, movement of cement should also be free from all unnecessary shackles that are bound to be caused if a multiplicity of agencies is concerned with it. *We understand that in the case of some commodities—for example, sugar, tobacco and certain textile fabrics—the Government of India have,*

under the provisions of the Additional Duties of Excise (Goods of Special Importance) Act, 1957, the legal power to charge an additional excise duty in lieu of sales tax by the States and to reimburse the States in an appropriate manner. Cement well qualifies for the definition of "Goods of Special Importance". We suggest that if and when the Government in consultation with the State Governments consider the question of enlarging the scope of this legislation, they may consider the desirability of including "Cement" also as one of the items therein.



CHAPTER XII

COST AND PRICE FIXATION

36. Our approach to the problem of price fixation

36.1. While undertaking the comprehensive review of the cement industry and recommending fair ex-works prices payable to the producers, we have been requested to take into account *inter-alia* the following considerations.

"(a) The price structure is such as would encourage the growth of the industry and at the same time as would exercise greater pressure towards efficiencies and economies in the cost of production; and

(b) Whether, given the regional imbalance between supply and demand, suitable incentives for the setting up of additional capacity in deficit or near deficit areas, or a suitable structure of prices, regional or otherwise may be necessary."

36.2. The Commission in its earlier Reports of 1953 and 1958 had fixed individual retention prices for the various producers of cement. The Commission while submitting its 1961 Report to Government felt that in view of the wide disparities in costs of the different units which were in production, it would not be a correct approach to the problem of price fixation to have a uniform price for all the units which were in production. Therefore, the Commission estimated targets of production for each unit separately and fixed the rate of return at varying percentages on the capital employed for the different units. Thus separate individual retention prices for the various units in production were recommended by the Commission. Government, however, modified the recommendation of the Commission and fixed one uniform retention price at Rs. 69.50 per tonne for the industry as a whole. While doing so the Government also observed in its Resolution that "Government are of the considered

view that the existing system of differential prices, based on individual costs is not conducive to efficiency and greater production and that there should be a uniform price for the industry, so that greater pressure is exercised on units having higher costs to find economies and there is a measure of reward for those units able to achieve economies." "Government, however, recognised that "in the case of those few units having appreciably higher costs on account of several reasons, an extra price may have to be allowed for a period of time, so as to enable them to continue in production until, by reaching economic levels they are able to operate within the uniform price". Accordingly, extra prices amounting to Rs. 3.00 per tonne, Rs. 5.50 per tonne and Rs. 25.50 per tonne in respect of certain individual units were allowed by Government.

36.3. The question whether there should be one uniform price for the industry as a whole or individual retention prices to the various units in production was discussed in detail in the course of the present public inquiry. A majority of representatives of the industry were in favour of a uniform retention price. A few of the representatives of the industry, however, admitted that while fixation of uniform price would be acceptable as a general principle, some incentives in the form of an extra price or otherwise, would be necessary in the case of some of the units, particularly those having their factories in the deficit regions of Northern India. In this connection it was urged that in order to encourage expansion of existing units in this region as well as to attract entrepreneurs to set up new units in this region, some incentives by way of extra price or otherwise were absolutely essential. In support of the submission that an allowance of an extra price was necessary in some cases, it was urged that in some cases the quality of limestone was such as would require beneficiation, while in some other cases limestone deposits were located at a distance from the factory thus involving higher charges for transport of limestone from the quarries to the cement factory.

36.4. We have given careful thought to this subject. Our objective is to ensure a fair price to the industry that

would not cast an unreasonable burden on the consumer and yet be such as would help in the rapid development of the Industry and attract fresh capital for expansion of the existing units and establishment of new ones.

36.5. Taking an overall view, we are not in favour of fixing separate ex-works prices for individual cement producers in the present circumstances of the industry. Fixation of individual retention prices would tend to bring about stagnation and a sense of complacency in the producers as it would remove the element of competition amongst them to reduce their costs of production, improve their operative efficiency and raise output. If would also engender a tendency in them to inflate costs so that their margins of profit may swell. Moreover, the system of individual retention price would help the inefficient units but not reward the efficient. *Taking every thing into consideration we have, therefore, decided to recommend a uniform ex-works retention price for the existing units of the Industry.*

36.6. We have, however, taken due note of the submissions made that special consideration should be given to the difficulties of units operating in deficit regions and to new units and expansion of existing units which will come up in the price period. Our recommendations relating to assistance from the freight pool in respect of the plants set up in remote areas of deficit regions are contained in paragraph 31.11.2. We have also in paragraph 45 below dealt with the relief by way of an additional price to be allowed in the case of new units and expansions of existing units during the price period. As a long term policy we have also made some suggestions to extend assistance to such of the units as are at present only in the "letter of intent" stage in paragraph 46.1. We feel that fixation of a uniform ex-works retention price for the industry as a whole with the added concessions to be given in special circumstances as enumerated above, would be the best solution for the rapid development of the industry on the one hand and safeguarding the genuine interests of the consumer on the other.

36.7. At present two units namely, Travancore Cements and Assam Cements are being allowed an additional price over the uniform retention price which is prevalent since April 1969. Since we propose to fix a uniform retention price for the industry as a whole, it is necessary to examine whether there is any case for the continuation of such extra price to these two units.

36.8. The special circumstances in the case of Travancore Cements are a large labour force and the increased costs incurred by the concern on account of location of sea shells (which is the raw material utilised by this unit instead of limestone) getting farther and farther away from the cement factory as the stocks nearby get exhausted. This unit has a comparatively small capacity of 50800 tonnes and one of the methods by which it can become viable is to expand its capacity. With paucity of raw materials, however, such expansion is apparently not possible. We also understand that special facilities for dredging of sea shells and reservation of areas for such purpose have not been provided to the unit by the State Government and as a result proposals for expansion have become economically doubtful. Under the circumstances, the unit has resorted to diversification of its activities by the manufacture of white cement, the price of which is not controlled, and cement paints. The existing information from the unit shows that from year to year the manufacture of OPC is being reduced and the production of white cement has increased. Thus in the year 1970 the unit produced 42,295 tonnes of OPC and 14,396 tonnes of white cement, while during the year 1972 it produced 31,387 tonnes of OPC and 19,266 tonnes of white cement. This policy on the part of this unit to improve its financial position by a shift from production of OPC to white cement and similar other diversification such as production of cement paints appears to be a step in the right direction. *By such steps this unit can improve its economic position and, therefore, we do not see any reason to offer any special price for its production of OPC.*

36.9. As regard Assam Cements, we understand that expansion of the existing capacity is being actively pursued by this unit and the expanded production is likely to be

commissioned in the near future. As a result of such expansion, the economic viability of this unit is bound to improve. We have in paragraph 45 below also provided for an addition to the uniform retention price in the case of expansions of existing units. Such added price will be available to this unit to the extent its expansion materialises. Besides, our recommendations in paragraph 31.11.2. relating to assistance from the freight pool in respect of the plants set up in remote areas would also be applicable to this unit. *In view of these added concessions, there is no case for continuing any more the extra price which is at present being given to this unit.*

37. Selection of units for costing and period selected for study of the costs of production.

37.1. As mentioned in paragraph 4.3 there are at present 52 units engaged in the manufacture of cement of which 17 are owned by the Associated Cement Companies of India Ltd. (ACC). We did not consider it necessary to examine the costs of production of all the units and selected a representative sample comprising 23 factories having regard to the various factors which influence costs, such as, location of the factory, capacity, regional distribution, process of manufacture adopted and age of the plant etc. Representation was also given to the public sector units in the sample. As already stated, at paragraph 4.3 before selecting the cost sample we invited the views of the C.M.A. in the matter and held detailed discussions with its representatives on various relevant aspects. These 23 factories were costed by our Cost Officers and the Cost Officers of Ministry of Finance (whose services were lent to us) for the latest accounting period for which audited data were available i.e. 1971 in certain cases and 1971-72 in others. In the case of Sone Valley Portland Cement Co. Ltd., Japla, the calendar year 1970 was chosen for the purposes of cost study. This had to be done in view of the fact that for the subsequent year 1971 complete accounts were not available due to abnormal conditions which prevailed on account of labour strike and other circumstances. The list of factories selected for costing, together with the years of their establishment, the accounting year for which cost data were examined

and the Officers who examined them is given in Appendix 20.

38. Cost of production—Actuals.

38.1. The actual costs of production as worked out by our Cost Accounts Officers for the 23 cement factories which were costed by them, are given in Appendix 21. These 23 costed units include units which also produce PBFS cement. Since no separate price has been in vogue for PBFS cement, the statements of costs exhibit the average costs of such units, inclusive of the cost of PBFS cement. This Appendix consists of various inter-connected statements, namely —

(i)	Total costs of production of cement including packing material and selling expenses .	Statement—A
(ii)	Cost of lime-stone . . .	Statement—A-1
(iii)	Cost of production of clinker .	Statement—A-2
(iv)	Cost of production of cement (ground)	Statement—A-3
(v)	Cost of packing cement . .	Statement—A-4
(vi)	Selling and distribution expenses	Statement—A-5
(vii)	Element-wise cost of production of cement (ground) . . .	Statement—A-6

For safeguarding the confidentiality of the information relating to individual units, we have avoided any reference to the name of the unit in the statements and have instead adopted numerical symbols for them. The statements of actual costs were furnished to the concerned costed units for their examination. Thereafter, we have invited them individually for discussion of their costs as per programme indicated in paragraph 4.6.

38.2. Costs—Actuals

Some of the salient features of the actual costs are discussed below :

38.2.1. Utilisation of capacity

38.2.1.1. While examining the capacity utilisation of various costed units it was observed that in some cases the figures of the installed capacity as furnished by the costed units slightly differed from the figures supplied by the Ministry of Industrial Development and published by the Cement Controller. For the limited purpose of the study of actual costs, we have adopted the figure of installed capacity as furnished by the units and related the same to the production for the period for which the cost investigation was carried out. On that basis, the consolidated percentage of capacity utilisation for the costed units both on the basis of clinker as well as cement (ground) works out approximately to 80 percent for the costed period. This is quite representative of the Industry as a whole and tallies closely with the figures of capacity utilisation published by the Cement Controller.

38.2.1.2. For the purpose of our Interim Report, the capacity utilisation was worked out on the basis of the figures of installed capacity as furnished by the Cement Controller. In the case of Sone Valley Portland Cement Co. Ltd., as already mentioned, the actuals for this units were examined for the year ending December 1970 and these figures were notionally brought up to the 1971-72 level. The resultant capacity utilisation came to the figure of 82·38 per cent.

38.2.1.3. Details of the capacities of the units selected for cost examination and the untilisation of capacity by them during the costed period are set out in Appendix 22. A study of these figures indicates that capacity utilisation varied from 49.9 per cent to 110.8 per cent for cement ground. There are various problems faced by the cement units which account for the varying percentages of capacity utilisation. Such problems relate to shortage of rail wagons, shortage of coal, irregular power supply and power cut etc. These various

external constraints have been discussed by us in detail elsewhere in the body of this Report. Further, in the case of some of the units such as Sone Valley, there are certain historical problems such as a large labour force and out-dated machinery etc., which have resulted in low and uneconomic utilisation of capacity.

38.2.2. **Raw Materials**

38.2.2.1. In most cases the main raw material, namely, lime-stone/sea shell is quarried by the cement factory itself. In a few cases, contracts for operation of the quarries and/or for the supply of lime-stone/calcareous sand have been given. Gypsum is mostly purchased.

38.2.2.2. *Transport cost of Lime-stone.*—In the case of some factories, the sources of raw material, namely limestone are situated at a distance from the factory involving heavy expenditure for transport of limestone by rail or road. It was represented before us by those cement units that such heavy cost of transport of lime stone should be duly taken into account by us for consideration. With a view to studying this aspect, the cost of transportation of limestone has been separately investigated and presented in the statement of actual cost . It was found that during the costed period the cost of transport of limestone has varied from Re. 0.95 per tonne of cement to Rs. 16.00 per tonne of cement for the various costed units. The weighted average of limestone transport cost of all the costed units worked out to Rs. 6.30. per tonne of cement.

38.2.3. **Other costs**

The other costs of production have been suitably analysed under various heads process-wise as well as element-wise and presented in Appendix 21.

38.2.4. **Salaries and Wages**

The variations under salaries and wages reflect some of the historical aspects of the industries. While there are some old units having a large labour force with consequent higher

impact on wages there are other modern units which have been able to mechanise some of their operations and they maintain a relatively lower labour force.

38.2.5. **Power**

A study of the quantitative consur ption of power shows that consumption of power per tonne of cement has varied from 92 to 173 k.w.h. The incidence varies due to several circumstances. In the case of units adopting dry process, the consumption of power is higher as compared to the units using wet process. To a certain extent however, such high cost of power is compensated by other economies such as usage of lesser quantity of coal and a lesser labour force. The cost of power is also affected to some extent due to the trippings and due to the inefficiency in operations in the case of some of the older units.

38.2.6 **Coal and Fuel**

38.2.6.1. The transport cost of coal is influenced by various circumstances such as the distance of the factory from the coal fields and relative efficiency and capacity of the consuming units. Units employing dry process consume lesser quantity of coal as compared to units employing wet process.

38.2.6.2. As mentioned in paragraph 23.1. some of the units switched over from the use of coal to furnace oil and were granted oil subsidy several years ago. Such units continued to use furnace oil as long as the subsidy on furnace oil was available. On termination of the subsidy on furnace oil, however, they have tended to shift more and more to the use of coal in place of furnace oil.

38.2.6.3. The use of fuel was studied on a quantitative basis. For this purpose, furnace oil used was converted to equivalent quantities of coal necessary, based on average calorific value. It was found tnat the consumption of coal per tonne of cement varied from 0.19 tonne (in the case of dry process unit) to 0.375 tonne and the weighted average stood at 0.280 tonne of coal for a tonne of cement ground.

38.2.7. **Depreciation**

38.2.7.1. Depreciation has been calculated at the normal income-tax rates on the written down value basis. One of the points which was a subject matter of discussion in this connection was the value of the block on which such depreciation is to be calculated. Detailed submissions were made on this issue by the representatives of the ACC Group both in their written Memoranda as well as at the time of the public inquiry. It was pointed out that at the time of the Commission's inquiry in 1961 depreciation was allowed for income-tax purposes on the basis of double shift only. Accordingly, all the calculations relating to depreciation were made only on that basis at the time of that inquiry. Subsequently, with effect from the assessment year 1964-65 depreciation on the basis of three shifts was allowed for the purposes of income-tax. As a result of this change in the method, the written down value of the various assets entitled to third shift allowance got further reduced. If this change in the method of calculating depreciation had not taken place, the value of the block on which depreciation would have been allowed for income-tax purposes would have been much higher than the value which is being actually adopted as a result of the introduction of the changed system of allowing depreciation for the third shift as well. It was contended before us that since there has been no Tariff Commission inquiry after 1961, and since the present retention price of Rs. 100.00 is based on the Report of the Tariff Commission 1961, it must be presumed that the element of depreciation in the present price is on the basis of two shifts only. It was, therefore, suggested for our consideration that for the purpose of the present cost study, it will not be correct to adopt the value of the block as per the income-tax records but instead such value should be enhanced by re-working the figures on the basis of two shifts only and depreciation should be calculated on such higher block.

38.2.7.2. This claim has been examined by us carefully. Though it is true that there has been no Tariff Commission inquiry since 1961, one must not lose sight of the fact

that subsequent to the fixation of retention price by the 1961 Report of the Tariff Commission, Government have from time to time allowed further additions to the retention price. Though such additions were mainly made to give effect to various Governmental actions as well as other changes in circumstances such as increases in salaries and wages etc., the possibility that the change in the method of allowance of depreciation for income-tax purposes might also have been taken into account by Government while enhancing the retention prices from time to time cannot be overlooked. Further, as a result of allowance of additional depreciation by way of Third shift allowance for the purpose of income-tax, the units have to that extent benefited by way of having to pay income-tax and Corporation tax on a lesser total income. There is also another aspect to be considered. When the depreciation element is high, the average capital block would get reduced to that extent thereby affecting the figure of total capital employed and as a consequence, the fair return on capital. Therefore, even if it is accepted, for the sake of argument, that in the previous price fixation lower amount of depreciation was provided, that has correspondingly resulted in a higher quantum of capital employed. If the figures are revised for the third shift allowance and the quantum of depreciation is enhanced, there will be a consequential reduction in the average block, the capital employed and return, thereby counter-balancing the enhancement in the quantum of depreciation. One cannot, therefore, say that the industry has been put to any particular disadvantage. For the purpose of working out the actual costs we have adopted the block as per income-tax records for allowing depreciation.

38.2.8. **Grautity and Minimum Bonus**

The actual costs for gratuity are adopted as incurred by the units during the costed period and not according to the provisions of the Gratuity Act 1972 since that Act had not come into force during the costed period. As regards bonus, the minimum bonus paid by the costed units for the period investigated has been adopted.

38.2.9. **Excessive overheads and Bonus**

As mentioned in paragraph 2.6, we have been requested that while making the study of the cement industry, note may be taken of the contention of the workers' representatives made at the Fifth Session of the Industrial Committee on Cement to the effect that labour cost as a percentage of the total cost of production has been going down, whereas the proportion of salaries, allowances etc., has been going up, thereby causing adverse effects on the workers, particularly in regard to the payment of bonus. Considerable discussion took place in the course of the public inquiry on this issue. It is observed that the modernisation of factories results in an increase in the productivity of labour by the use of smaller labour force and by increasing the extent of mechanisation of various jobs and operations. This is reflected in the costs by way of a smaller wage impact per tonne of cement and a higher quantum of power, depreciation and overheads. With a higher degree of mechanisation, highly specialised engineers are required to be employed to look after the machinery and this gets reflected in the actual costs. It must also be noted that in the relevant extract from the main conclusions relating to excessive overheads and bonus considered at the Fifth Session of the Industrial Committee on Cement, which has been sent to us by the Government of India it has been stated that "after some discussion it was agreed that the question would be studied with reference to the available data on the subject". This makes it clear that for the consideration of this issue the relevant forum would be a body such as the Industrial Committee on Cement itself and the Tariff Commission can hardly have any observations to make on this issue beyond making the general observation that as mechanisation increases, a fall in the labour cost as a percentage of the total cost is not an unnatural or unusual phenomenon.

38.2.10. **Packing expenses**

38.2.10.1 The item "packing expenses" has to be distinguished from the item "packing charges". The item "packing charges" would cover the actual cost of gunny bags

plus all incidental expenses such as cost of valves, and railway/sea freight etc. incurred for transport of gunny bags to the factory. This item which represents cost of packing material plus incidental charges relating thereto does not form part of the retention price relating to the cost of naked cement but is added thereto while arriving at the f.o.r. destination price. As regards these packing charges, a system of quarterly fixation of packing material cost, taking into account the limits for the use of old and new bags, is in vogue as per the discussion in paragraph 9 of the Commission's 1961 Report. Since this system has been found to be working satisfactorily, no change therein is considered necessary for the future as well. As regards incidental charges for procurement of packing material, it will be seen from the discusssion in paragraphs 9.6 and 11.8 of the 1961 Report that such expenses were considered by the Commission at that time as part of the works cost. However, since the retention price is to be fixed for the cost of naked cement only, Government excluded such incidental charges of packing from the retention price *vide* paragraph 6(c) of the Government Resolution dated 31st October 1961 announcing its decision on the Commission's recommendations in its 1961 Report. We consider that such incidental charges are really part of the "packing charges" and not part of the ex-factory retention prices of naked cement. For the purpose of our recommendations, therefore, the cost of packing material inclusive of incidental expenses has been considered separately from the retention price.

38.2.10.2. The item "packing expenses" covers the costs incurred in the factory for packing and loading of cement either in drums or in bags and has therefore to be included in the works costs. These expenses have shown variations from Rs. 1.43 per tonne to Rs. 8.80 per tonne depending upon the extent of mechanisation in the packing department and the extent of utilisation of packing capacity. It has also been observed that some units have resorted to payment on contract basis in their packing departments. The weighted average cost of packing expenses is found to be Rs. 4.22 per tonne.

38.2.11. **Overheads**

The expenses under this head include, *inter alia*, the expenses which have been incurred by the cement factories for their own R & D. We feel that there is need for strengthening centrally organised R & D activities for the benefit of the cement industry as a whole. For our future estimates we have taken note of this necessity and made provision therefor as indicated in para 39.4.14.

38.2.12. **Total Costs**

Summarising, therefore, the total actual cost of naked cement i.e. cement excluding the cost of packing material and incidental charges connected therewith ranges from Rs. 69.71 to Rs. 126.60 with weighted average cost standing at Rs. 97.24 per tonne.

38.3. **Selling and distribution expenses**

Cement is distributed to Government/semi Government departments directly by the factories themselves on the basis of release orders issued by the Regional Cement Officers. It is distributed to other consumers generally through selling agents. The actual cost incurred by the costed units for selling and distribution, including the commission paid to the agents, works out to Rs. 3.03 on an average per tonne as shown in Appendix 21 (Statement A.5.)

38.4. **Regional/Zonal characteristics**

We have also examined the actual costs with a view to arriving at a decision whether a price structure region-wise is necessary. Our study of actual costs does not support the fixation of any such price. The study does not reveal any marked common characteristics, either regional or zonal, in respect of the various components of costs such as transportation of limestone and coal, utilisation of power etc. The general pattern of similarities as well as disparities which was observed at the time of the 1961 Report more or less continues even at present. *In the absence of any regional or zonal similarities therefore we do not think it either possible or necessary to consider a region-wise fixation of prices.*

39. Estimates of Cost of production for the future and price period.

39.1. While making its recommendations in the 1961 Report, the Commission had followed the method of estimating for the future the costs of the selected units on the basis of the anticipated utilisation of capacity and the estimated expenses for achieving the production of that capacity. We have reviewed this method in the light of the present position of the industry.

39.2. **Our Assumptions**

39.2.1. The selection of the units to represent the cross section of the industry is based on the circumstances prevailing at the time of such selection with the anticipation that the overall results of the working of the selected units would represent the results of the industry as a whole.

39.2.2. Estimating the anticipated performance of each unit for the future period with reference to the anticipated circumstances of each of such units and consolidating or averaging the results for all the units is likely to give a picture which would be different from the performance during the period chosen for the study of the actual costs and the representative nature of the results is likely to be vitiated as the improvements anticipated in these units cannot be expected from all the units in the industry in the same proportion. Therefore, *we feel that taking the overall picture of the actual results of the units selected for cost examination as the base it would be better to make the estimates for the future on an ovearall basis and not on an individual basis.*

39.2.3. Both in the written Memoranda as well as in the course of the public inquiry, the industry strongly urged that "the price should be based either on direct forecast of overall costs i.e. the costs as they will be on the average over the price period or on the basis of adjusted current costs with automatic escalation for certain major cost elements coupled with provision for forecast in respect of only those items of costs which lend themselves to the computation of their escalation factors." We also feel that for the purpos

of making estimates for the future, the above are the two alternatives open for adoption.

39.2.4. In the present circumstances of fast developing and changing economy, it is difficult to make a direct forecast of the average overall costs as they will be over the pricing period. The projections of future costs on an average basis will have to be related to the trend of increases of the various indices which at present are unsteady and uncertain and any estimates over the price period may get wide off the mark. At the same time, it may not be advisable to provide automatic escalations for all the elements of costs which would cover the increases in costs over the period. If such a provision is made, it would lead to complacency on the part of the industry and will not be conducive to any efforts on the part of the industry to find out ways and means to effect economies with a view to living within a prescribed price. We therefore propose to adopt a via media between the two alternatives mentioned above and make a forecast for the future with escalations in respect of only major elements of costs where the industry is not likely to have any direct control over the increases of such costs.

39.2.5. While dealing with the position of the actual costs we have indicated the wide disparities in the costs as well as in the quantitiative usages of the inputs. This shows how difficult it is to develop any norms of usage or consumption factors for the industry as a whole. We find each unit has its own peculiarities and is different in respect of almost every element of input and its cost. We have, therefore followed the well recognised system of weighted averages for arriving at the overall costs of the industry.

39.2.6. It would be necessary, to provide a break-up of the total costs under important elements to enable us to make provision for escalations for them. *We consider that escalation should be provided for the following major elements of costs, namely,*

(i) Wages and dearness allowance

(ii) Price of coal

(iii) Power tariff

(iv) Freight on coal and limestone.

39.3. **Price period**

While dealing with the problem of price fixation for various industries the Commission has normally been following the practice of adopting three years as a period of suitable duration for the regulation of prices. In its 1961 Report the same practice was followed by the Commission. While announcing their decision on the Commission's recommendations, however, Government made an alteration in the period and adopted a period of five years. The circumstances which prevail in the cement industry now are to some extent different from the circumstances in other industries. The period required for the installation of a new cement unit is quite long and therefore any entrepreneur intending to enter the field has to make his decision well in advance of the anticipated time by which production can start. In the present context of acute shortage of cement, expansion of capacity is of urgent importance. It is, therefore, vital that both the industrialists who are already in the field and who are likely to enter it in the future should be assured of stable conditions for a reasonable period of time so that they can assess the situation as it is likely to emerge in the next few years. To inspire such confidence we feel that stability of prices over a period longer than three years is necessary. *We therefore, consider that the prices that are being recommended by us for the future should be prevalent for a period of about five years i.e. they should be valid till 31st March* 1979. Incidentally, this pricing period will coincide with the period of the Fifth Five Year Plan.

39.4. The estimated costs for the future have been considered on the above basis and the salient aspects of the estimates are discussed below.

39.4.1. **Capacity utilisation for the future**

The utilisation of capacity actually achieved by the industry has been dealt with in detail in paragraphs 10 and

38.2.1.1. A study of the costed units has indicated variations in capacity utilisation during the period of cost investigation from 45.9 to 110.8 per cent on the basis of cement ground and the installed capacity as accepted by the units at the time of the cost investigation. The overall percentage for the selected units works out to 80 per cent as already mentioned. The various constraints which affected utilisation of capacity have been dealt with in detail elsewhere in the Report. The limiting factors for utilisation of capacity would be the availability of power, wagons and coal. It is difficult at this stage to foresee with any degree of certainty the likely improvement in the availability of these items during the Fifth Plan period. Under the circumstances, a cautious approach in respect of estimate of capacity utilisation for the future is unavoidable. We have already discussed in detail this subject in paragraphs 16.2 to 16.5 of our Report. For the reasons indicated therein, *we consider that an estimate of capacity utilisation at 85 per cent for the industry as a whole, taking into consideration all the units in production as on* 1-1-1974, *would be a fair one.*

39.4.2. **Raw materials**

In the 1961 Report of the Commission the costs of raw materials such as lime-stone/calcareous sand/sea shell were indicated as a separate element of cost. This could be done as at that time the practice of obtaining such raw materials on contract or operating the quarries through contractors was mostly in vogue. It is true that this system is prevalent even now in a few cases. However, by and large, the operation of quarries is at present being conducted by the cement units themselves. As a result of the implementation of Wage Award for the Cement Industry, labour in the quarries has also become elegible for the benefits extended to the labour working in the cement factories since the quarrying operation is more and more being integrated as part of the cement factory itself. Under the circumstances, we have considered the operation of quarries as an integrated part of the factory and have merged their costs under the cost elements such as wages, salaries, power etc.

39.4.3. **Transport of raw materials**

We have indicated the fact of heavy expenses for transportation of limestone from long distances in paragraph 38.2.2.2 while dealing with actual costs. It was contended before us by the representatives of some of the units in whose case the transport cost of limestone was high, that in estimating the cost for the future necessary relief on this account may be given. We have dealt with this aspect in detail in paragraphs 33.7.5 and 33.8 of our Report. For the reasons set out therein *we do not consider that any general relief on this account is necessary* while estimating the costs of production for the future. In the paragraphs mentioned above, *however, we have made recommendations concerning the relief which should be given to some of the units which were set up before the freight pooling system was introduced in* 1956.

39.4.4. **Salaries and Wages**

Subsequent to the period chosen for cost investigation the minimum wages payable to the workers of the industry have undergone changes on account of (i) interim award providing for an increase of Rs. 25.00 in wages effective from June 1972, and (ii) the recent award given by the Central Minister for Labour in September 1973. The dearness allowance payable to the workers has also been linked up with the cost of living index. The changes known up to March 1974 have been taken into consideration. Due provision has also been made for changes in the elements of wages costs such as periodical increments etc.

39.4.5. **Minimum Bonus**

Under the recent amendment to the Bonus Act, the minimum bonus payable has been raised from 4 per cent to 8 1/3 per cent for 1971-72. As the minimum bonus would be payable at this rate in the future also and Government propose to enact suitable legislation to this effect, we have provided for bonus in our future estimates at the enhanced rate of 8 1/3 per cent of the wages payable.

39.4.6. The miniumm bonus has been treated by us as an item of cost. There is considerable controversy on the question of treatment of bonus—whether it should be part of cost or part of return. The Commission had occasion in the past to examine this question in detail, in connection with the Sugar Inquiry, 1973. For the reasons given in detail in paragraphs 9.8.2 to 9.8.6 of the Sugar Inquiry Report, 1973, the Commission came to the conclusion that it would be appropriate to include the minimum bonus as an item of cost. In coming to this conclusion the Commission had relied on some of the observations of the Supreme Court in their judgement in the case of Anakapallee Co-operative Agricultural and Industrial Society Ltd. Vs. Union of India delivered in November 1972. For the same reasons as set out in detail in the Commission's Sugar Report, 1973 we have considered it appropriate for the purpose of this inquiry to include the minimum bonus as an item of cost.

39.4.7. **Gratuity**

Payment of gratuity has now become compulsory under the Payment of Gratuity Act, 1972. The question of making a suitable provision on this account in respect of past and future liabilities was discussed with the officials of the L. I. C. which undertakes Insurance Scheme for meeting the liability for gratuity payment, while making a study of costs in connection with the recent sugar inquiry. It was found that a funding system for the staff and workers with an average age of 30 years at the time of entry into service with past service extending up to 10 years and the retirement age of 60 years, would require a provision of 3 per cent of salaries and wages to cover the liability for gratuity payment. Such a provision has accordingly been made in working out the future estimates.

39.4.8. **Coal**

Due note has been taken of the changes in prices of the various grades of coal up to December 1973 and the proportion of their use in the cement factories. Note has also been taken of the increase in the freight on coal, due to the revision of freight charges with effect from 1-4-1974 as a result of the latest Railway Budget. As discussed under actuals,

the usage of coal has been varying to a substantial degree. New units employing dry process have placed their estimates of usage at 15 per cent or 0.15 tonne per tonne of naked cement. For the purpose of break-up of cost in making our estimates we have adopted the average consumption at 0.280 tonne per tonne of naked cement. For the purpose of calculation the use of furnace oil has been converted to the equivalent quantity of coal on the basis of the average calorific value of coal and furnace oil. Some of the units may have to use furnace oil as fuel due to circumstances completely beyond their control. For the reasons mentioned in paragraph 23.3 and 23.4 such units may require special consideration. An indication of the adjustments that may have to be made in their case is given in paragraph 44.4.2.

39.4.9. **Electricity (Power)**

The consumption of power varies according to the method of processing i.e. wet process or dry process. For the purpose of break-up of costs in the estimates, the weighted average consumption at 120 Kwh roundly per tonne of cement has been adopted and the average prevailing in December 1973 power rates at 10 paise per unit have been applied to the same.

39.4.10. **Consumable and Repairs, Stores**

While estimating the costs under these heads, we have taken an overall view and provided for probable increases over the costed period on the basis of the indices in the group of commodities in question. As the items under this head are too numerous, it is not possible to provide for any workable escalations for them.

39.4.11. **Depreciation**

Depreciation has been worked out on the written down value basis according to the income-tax rules. Provision for normal routine addition and replacements to machinery etc., during the price period has been made wherever information relating thereto has been given by the costed units. Merits and demerits of other methods such as straight line

method and the replacement value method have been discussed in detail in various other Reports of the Commission. We continue to prefer the written down value method.

39.4.12. Overheads

As regards the overheads, allowances have been made for increase in general price level keeping in view the need and scope for economy under general expenses.

39.4.13. Packing expenses excluding packing materials

These have been reflected in the various elements of costs wherever necessary.

34.14. Research and Development (R & D)

Most of the cement units have well-equipped research laboratories for conducting daily routine tests in connection with the manufacture of cement. Some have slightly vaster R & D facilities also for their benefit. The expenditure incurred on such activities by the cement units is reflected in their overhead expenses. Cement, however, is an industry where we feel that in addition to whatever R & D activities the individual units may by undertaking for their own benefit there is need for a centrally organised R & D activities for the benefit of the industry as a whole. We consider that a sum of Rs. 0.50 per tonne of cement may be earmarked for such centrally organised R & D activities. This sum will form part of the retention price but its utilisation will be as indicated in paragraph 29.6.

39.4.15. Contigencies

While fixing the retention prices for the various cement producing units, the Commission in its 1958 Report made a round sum provision of Rs. 2·00 for contingencies. The reasons for allowing this amount have been set out in paragraph 7.2.7 of the 1958 Report of the Commission. The same amount of Rs. 2.00 was also provided in the retention prices fixed by the Commission in its 1961 Report for the reasons set out in paragraph 11.7 of that Report. This allowance

was made to provide for unforeseen contingencies and imponderable factors. While fixing our estimates for the future we have given careful consideration to the various aspects such as possible achievement of capacity utilisation during the price period taking into account the various constraints such as availability of power, wagons' availability, the possibility of short supply of coal and the like. We have also provided for escalation in the prices of important elements such as coal, power and freight on major items such as coal and limestone. However, the industry rightly has apprehensions about the present conditions of unsettled supply of various materials and inputs, which conditions may continue to prevail during the price period. Certain unforseeable factors such as break-down in machinery, erratic, power supply and labour troubles cannot also be ignored. Taking into account all these imponderable factors, we consider that there is a case for continuing the allowance for contingencies in the present conditions of unsettled economy. Giving due weight to the relatively higher indices in the prices as compared to the past, *we feel that as against the sum of Rs.2.00 provided by way of contingencies in the earlier Reports of the Commission, a sum of Rs. 3.00 per tonne of cement should be included as contingency allowance in the retention price.*

39.4.16. On the above basis the estimates of ex-works cost of production have been made. They are set out in the following Table.

TABLE 39.1

Estimates of Ex-works cost of Naked Cement

Elements	Rs.per tonne
1. Gypsum	3·75
2. Other Materials	2.00
3. Transport of Limestone	6.40

Elements	Rs.per tonne
4. (a) Wages and Salaries	23.20
(b) Gratuity	0.60
(c) Minimum Bonus	1.65
5. (a) (i) Basic price of coal . . .	11.90
(ii) Freight and other charges . .	14.70
(b) Electricity	12.00
6. Consumable Stores	6.50
7. Repairs Stores	8.50
8. Depreciation	9.10
9. Royalty	1.70
10. (a) Factory Overheads	7.20
(b) Administrative Overheads . . .	4.30
11. Research (Central)	0.50
12. Contingencies	3.00
13. Ex-works Cost.	117.00

40. Fair return to the industry.

40.1. In its 1961 Report the Commission had followed the method of computing the fair return to the industry as a percentage on the total capital employed consisting of the two components, namely, (i) the net fixed assets, and (ii) the working capital needed for running the organisation. This method of allowing fair return has generally been accepted by the industry as fair. We propose to follow the same method in making our calculations.

40.2. The value of the net fixed assets has been worked out by us at the average of the fixed assets on the written down value method. As regards working capital, the

1961 Report of the Commission assumed the working capital needs of the industry at five months' cost of production excluding depreciation. The industry has urged that for the purpose of the present calculations, the same level of working capital should be adopted. Under the present conditions of shortage, the holding of raw materials in process and the finished stocks need to be restricted to the minimum quantity and for the minimum period of time. However, it would appear that the industry cannot be held fully responsible for the holding of large quantities of raw and processed materials for a period of time, since the industry has perforce to do so due to doubtful conditions of supply of power and other external constrains such as availability of railway wagons and coal. Taking the overall picture, therefore, we consider that the working capital needs should continue to be assessed at five months' cost of production, excluding depreciation, as in the past.

40.3. At the time of the last inquiry in 1961, the Commission recommended differential rates of return to the various cement units in production ranging from 14 per cent for low cost units to eight per cent for high cost units. Since for the purpose of the present study we are dealing with the conditions of the industry as a whole for all the existing units, such differential treatment would not be the correct approach and common rate of return has to be estimated.

40.4. It was urged before us by some of the representatives of the industry that looking to the circumstances prevailing in the cement industry, the fair return on the total capital employed should be fixed at 12 per cent after payment of tax. This would work out to a gross return of over 28 per cent on the total capital employed. Some other representatives submitted that the maximum rate of return estimated at 14 per cent in the 1961 Report should be revised upward in view of the changing conditions of the money market prevailing at present and expected to prevail in the price period.

40.5 A fair estimate of the rate of return on capital employed has to be made after taking into consideration

the general pattern of the composition of capital with its various elements, namely, share capital, reserves and loans. The fair rate of return has to be fixed after taking into consideration a reasonable return on equity to the share-holders, incentive to encourage the growth of reserves and interest payable on loans obtained by the industry.

40.6. In the past there was an indirect compulsion on the part of the industry to create reserves and retain the same in the business for a considerable period of time on account of the development rebate allowable under the Income Tax Act. This situation is likely to be altered to a certain extent during the price period. Government had originally announced their intention to discontinue the allowance of development rebate with effect from 1-5-1974. However, while presenting the budget for 1974-75 the Finance Minister has announced the continuance of allowance of development rebate to a limited extent. The allowance has been proposed to be extended by one year in cases where there is conclusive evidence to show that contracts for purchase of machinery and plant were finalised before December 1, 1973. Development rebate is also proposed to be allowed in respect of coal fired boilers or any machinery or plant for converting oil fired boilers to coal fired boilers where these are installed before 1st June, 1975. It is not possible to say at this stage whether the development rebate allowance will be available to the industry in the subsequent part of the price period. Therefore, for the future the motivation for the creation of reserves is likely to be limited to the prudent assessment by individual entrepreneurs regarding their requirements of reserves for the stability of the concerned unit. There cannot be two opinions that it is essential for the industry to build up reserves in the interest of stability and also to enable the industry to meet the needs of rehabilitation, expansion etc. Such a need is all the more urgent in the case of the cement industry in view of the prevailing acute shortage. Finances, whatever be their sources must receive their due share of remuneration in form of return. We, therefore, consider that while making an estimate of fair return, reserves must also be considered to be entitled to their due share.

40.7. As regards borrowings, entrepreneurs in the industry tend to prefer to resort to borrowings to the maximum extent possible rather than to utilise their own Capital in the form of equity or reserves. This tendency is understandable since interest payable on borrowings is allowable as a deduction from profits for the purposes of Income-tax. We find that the rate of borrowings for capital equipment is at present ranging from six percent to eight and half percent. The working capital needs obtained by hypothecation of current stocks etc., are charged by the banking institutions at the rate of about 10 to 11 per cent. We have also noted that the Reserve Bank resorts to certain measures to regulate credit according to their policy and are anxious that such measures are not countered in any manner.

40.8. After taking into account all the aspects discussed above, *we consider that the return of about* 14 *per cent on capital employed would be a fair estimate. In terms of absolute figures this works out to a round sum of Rs.* 15.00 *per tonne.* Under the present pattern of composition of capital employed, this return would enable the industry to meet its various commitments towards borrowings, as well as provide a fair growth of reserves and a fair return on equity to the shareholders.

40.9. The above figure of Rs. 15.00 as a fair return would apply to the existing units. *We feel that for reasons which will be discussed in detail separately in paragraph* 45, *a differential treatment to new units which will come into existence during the price period as well as to the expansion of the existing units in the price period is necessary.*

41. Allowance for Rehabilitation

41.1. The Commission had considered the question of rehabilitation allowance in its 1961 Report and recommended to the Government varying amounts of allowance for rehabilitation to different units. The Government considered this recommendation and while fixing the retention price of Rs. 69.50 per tonne for the Industry by their Resolution No. Com-8(27)/61 dated 31-10-1961 included an allowance of Rs. 2.00 per tonne towards rehabilitation and other approved purposes such as research, development etc.

41.2. During the course of the present inquiry the industry has pressed again for an adequate allowance for rehabilitation. The commission had considered all the pros and cons of a rehabilitation allowance during its 1961 inquiry and found that provision for such an allowance was justified. We need not repeat that reasoning as it is basically the same even now. If anything the case for a rehabilitation allowance has now become stronger. The condition of the industry is much worse than what it was in 1961. The need for maximising production of cement is more pressing than ever and modernising and renovating old plant and machinery has become imperative to enable fullest use being made of the existing plants. We understand that out of the existing capacity of the industry, nearly 1·6 million tonnes capacity is accounted for by kilns which are more than 30 year old and could be considered to have outlived their normal span of life. A lot of other machinery and equipment of the industry is also in various stages of decrepitude. Modernisation and renovation is a continuous process which the industry cannot afford to neglect if it is to stay healthy. Of late persistent inflationary pressures have been building up pushing, *inter alia*, the costs of all replacement machinery and equipment higher and higher and even the prudent entrepreneur who has been careful about his depreciation and creation of reserves is encountering difficulty in rehabilitating and modernising his old plant without adequate additional finance. Entrepreneurs who have not been so vigilant in the past are, of course, in a bigger quandary. Under the present circumstances provision of suitable allowance for rehabilitation has become a compelling necessity.

41.3. All units of course do not need such an allowance to the same degree at present. At any given time their needs are bound to be different. But it is not possible to assess each one's immediate need individually and fix a separate quantum of assistance for each. A more practical method would be to have a uniform quantum for all but to ensure that this allowance is utilized only for genuine rehabilitation and modernisation and is not frittered away for other purposes. All units, whether old or new, stand in need of modernisation in due course of time, some sooner

some later, and the rahabilitation allowance will help to build up the necessary additional finance (along with the depreciation and reserve funds) to help meet the rising costs of rehabilitation.

41.4. A suggestion was made during the public inquiry that the rehabilitation allowance should take the form of of a subsidy by the Government, something on the lines of tea industry, so that it gets tax exemption. We do not think this suggestion is practicable. We consider that rehabilitation allowance will have to form part of the retention price and bear tax liability where applicable. After taking into consideration this factor, we feel that fair quantum for rehabilitation allowance would be Rs. 4.00 per tonne and that it should form part of the retention price.

41.5. The Government will, of course, have to evolve a methodology to ensure that rehabilitation allowance, after meeting the tax liability, is kept in a separate account and is not misused. We understand that in 1962 the Government had taken precautions to prevent misuse of such funds by the cement units by creating a "Development and Rehabilitation Account" to be operated jointly by the Government and the unit concerned for approved purposes of modernisation and rehabilitation. *We suggest the creation of some such Account again. Its details and modalities may be worked out by the Government in consultation with the industry.*

42. Final Fair Ex-works Price to the industry.

42.1. The final ex-works price to the existing units in the industry is, therefore, worked out as under :

	Rs./Tonne
(i) Ex-works cost of production (Paragraph 39.4.16)	117.00
(ii) Return (Paragraph 40) . . .	15.00
(iii) Allowance for Rehabilitation (Paragraph 41)	4.00
TOTAL	136.00

42.2. Slag and Fly Ash Puzzolana Cement (PBFS Cement and PPC)

For the reasons discussed in detail in paragraphs 20.2.9 and 21.2.10 we are not in favour of fixing a differential retention price for PBFS cement and PPC. However, certain concessional treatment to these two types of cement has been recommended by us in that paragraph to encourage and augment their production.

43.1. Selling expenses including Selling Agents' commission:

43. Selling expenses including Selling Agents Commission and Packing charges.

As mentioned in paragraph 38.3 the selling and distribution expenses of the costed units including the commission to selling agents work out on an average to Rs. 3.03 per tonne. The commission to selling agents is usually being paid at Rs. 1.25 per tonne. Aparts from the the payment of commission to selling agents, certain expenses connected with the selling of cement have necessarily to be incurred by the manufacturers themselves. The industry has represented that the selling agency commission of Rs. 1.25 per tonne which was fixed a number of years ago, is inadequate in the present circumstances and should be raised upwards. There is force in this contention. We feel that the selling agency commission should be raised to Rs. 1.50 per tonne. The other selling expenses incurred by the manufacturers themselves are also essential expenses. The total selling and distribution expenses inclusive of the selling agents' commission have necessarily to form part of the f.o.r. destination price. *For the future we have estimated such selling expenses at Rs.* 3.50 *per tonne including the selling agents' commission at Rs.* 1.50 *per tonne.*

43.2. Packing charges :

As already mentioned in paragraph 38.2.10, a system of quarterly fixation of packing material cost, taking into account the limits for the use of old and new bags, is in vogue as per the discussion in paragraph 9 of the Commission's 1961 Report. *Since this system has been found to be*

working satisfactorily, no change therein is considered necessary for the future as well.

44. Escalations.

44.1. The elements of costs to be considered for escalations are wages and dearness allowance, price of coal, freight on coal, power tariff and freight on limestone. They are dealt with seriatim below:—

44.2. While dealing with escalations for these elements we have borne in mind that with proper upkeep of the machinery and managerial efficiency it should be possible to economise on the use of coal and power. While suggesting escalations for these two elements we have, therefore, taken care not to recommend full neutralisation.

44.3. Wages and Dearness Allowance

44.3.1. As mentioned in paragraph 39.4.4 the estimates of costs for wages have been made taking into consideration the changes known upto March, 1974 including the changes as a result of the recent Award given by the Minister of Labour in September, 1973. As per the terms and conditions of that Award, dearness allowance has been linked up with the cost of living index, and the variable D.A. is adjustable at Rs. 1.30 for each point of rise or fall in the quarterly average of the All India Consumer Price Index In the present estimates, adjustments have been made for the average cost of living index at 257 point for the quarter ended December, 1973 payable with effect from 1st March, 1974. Variations of every 10 points in the cost of living index will result in an increase of Rs. 13 per month in the workers' wages.

After taking into account the other benefits such as bonus and gratuity payable to the workers, this will result in an increase of 70 paise per tonne of cement. We recommend that the escalations should be allowed on the above basis for increase of every 10 points in the Quarterly Average of All India Consumer Price Index.

44.3.2. The above refers to escalations in D.A. depending upon its Quarterly Average change. It is possible that some change may occur in the basic wages and/or D.A. during the price period. In that case also the adjustment in the retention price will be on the basis of 70 paise per tonne of cement for every change of Rs. 13 in the total of wages and D.A. per month per worker.

44.4. Coal

44.4.1. Price of Coal :

As mentioned in paragraph 39.4.8 due note has been taken of the changes in prices of various grades of coal upto December 1973 while making our estimates for the future. The average consumption factor of coal has been taken as 0.28 tonne per tonne of cement. If the price of coal moves up by Rs. 2.00 per tonne it would, on this basis, mean a change in the cost of cement by Rs. 0.56 per tonne. With a view to exert greater pressure on the management to introduce economics in the use of coal we propose that for an increase of Rs. 2.00 per tonne in the price of coal the retention price of cement should be increased only by Rs. 0.50 per tonne and not by Rs. 0.56.

44.4.2. Some of the cement units are forced to use furnace oil in place of coal due to short supply of coal or other circumstances. Where the Government is satisfied that sufficient reasons exist for such use of furnace oil by these units, they should be suitably compensated for the difference in the cost of coal and furnace oil on the basis of the calorific value of these two types of fuels.

44.4.3. Freight on coal:

Changes in the freight rates of coal effective from 1st April, 1974 as per the 1974-75 Railway Budget have been taken note of in our estimates of freight charges on coal. The average lead of coal haulage in the case of costed units comes to 975 k.m. Taking that as the basis an increase of Rs. 2.00 per tonne in the Railway freight rate of coal transport for 975 k.m. will raise the cost of cement by

Re. 0.56 per tonne. As in the case of price of coal we consider that the increase in the retention price for such an increase in the freight rate of coal should be only to the extent of Re. 0.50 per tonne of cement, and not Re. 0.56.

44.4.4. We understand that where coal is transported by rail-*cum*-sea route there is in existence a scheme of subsidy to neutralise the extra cost arising as a result of the variation in the mode of transport. As the basis for our calculations is transport of coal by rail this scheme of subsidy should be continued.

44.5. Power Tariff

In our estimate we have taken the average of the various prevailing power rates at 10 paise per unit. According to our estimates the weighted average of power units required for production of one tonne of cement is 120 kwh. With efficient management it should be possible to economise in the use of power also. We recommend that every increase of 0.5 paise per unit in the All India average of the power rates over 10 paise per unit should be compensated by an increase in the price of cement by Re. 0.50 per tonne even though on the basis of normal calculation the price increase would be of the order of Re. 0.60 per tonne.

44.6. Freight on limestone

While making our estimates we have taken into account the changes in the railway freight effective from 1st April as per 1974-75 Railway Budget. Upto a haulage of 40 kms. the railway freight rate for limestone is the smae. It is Rs. 7.60 per tonne at present. In our estimates we have taken the weighted average of transport cost of limestone as Rs. 6.40 per tonne of cement. It is because in most cases transport of limestone between the quarry and the factory is done by alternative arrangements. We recommend that for every increase of Re. 0·60 per tonne in the present railway freight rate of Rs. 7.60 per tonne on limestone for a distance of 40 Kms. the retention price of cement may be ncreased by Re. 0.50 per tonne.

44.7. It will be noticed that we have adopted a slab system for giving escalations. The escalations are being given only where the jump involves an increase in the cost of cement by at least Re. 0.50 per tonne. This is the minimum increase that we consider worthwhile taking note of. Any lesser increase can be ignored and can be taken care of by efficient handling of the plant and by the allowance of Rs. 3.00 per tonne of cement for contingencies which we have provided in our estimates of costs.

45. New units/ Expansion of the existing units.

45.1. In paragraph 42, we have indicated the final fair ex-works price in respect of the units which are at present in production. In the course of our inquiry, it was strongly urged by the various representatives of the industry that it would not be correct to fix the same retention price for units which are already in production and those (new or expanded) which will go into production during the price period. The main argument in support of this submission was the fact that as compared to the extent of the capital investment which was required to be made in the past for setting up a cement unit, the position has materially changed in recent years inasmuch as the cost of such capital investment has increased substantially.

45.2. We have obtained from the Ministry of Industrial Development a statement showing the particulars of the various units, either new units or expansions of the existing units which have already obtained Industrial Licences or are under C.O.B. licences. These are expected to go into production in the near future. A list of such units is at Appendix 23. The discussion in the subsequent sub-paragraphs relates to those units.

45.3. We have given very careful consideration to this problem. There are two aspects which have to be taken note of in this connection. It has to be examined whether as compared to the ex-works cost of production of the existing units, the ex-works cost of production of the new units/expansion of existing units is likely to be more, justifying an additional price on that account. Secondly,

it has to be examined whether on account of the heavy investment involved, an additional allowance for such investment should be given and if so, to what extent. These two aspects are discussed below.

45.4. For examining the first issue mentioned bove, a study of the ex-works cost of production of a unit which is expected to go into producton in the near future was carried out on the basis of the figures supplied by that unit. This study indicated that there is not much variation in the cost of production of such a new unit when compared with the cost of production of an existing unit even after taking into consideration the high element of depreciation involved in the new unit. This is because of the continuing technological advancement in the industry. Considerable economies in the cost of production are bound to be effected when setting up a new unit or expanding and existing unit by, for instances, resorting to dry process or other technological improvements. Further, it can normally be expected that various elements of costs such as the cost of repairs and maintenance etc. would be very much lower in the case of a new unit. In view of all these considerations we consider that it would not be necessary to allow any additional price to the new units/ expansions on account of ex-works cost of production.

45.5. As regards the second aspect namely, the high capital investment involved in the setting up of a new unit/ expansion, the data obtained by us indicates that there is considerable force in the submission of the industry. There has been a spurt in the capital investment involved in recent years on account of rapid rise in the cost of capital equipment etc. necessary for the setting up of a new cement plant. As a result, a differential treatment in the matter of return is justified even after taking into consideration the fact that financing of new units or expansions is to a substantial extent met by way of loans from financial institutions. *Taking into consideration an estimate of the heavy capital investment involved we feel that it would be fair to allow to the new units in the category mentioned in the list at Appendix 23 which will commence production during the price period, and additional sum of Rs. 10.00 per tonne of cement produced over the price fixed by us for the existing units.*

45.6. The same considerations as in respect of new units will apply to expansion of the existing units, subject to certain modifications. Units which are already in production and which expand their capacities could be expected to benefit to a considerable extent by such expansion. They could be expected to make fuller use of their supervisory staff and labour force. With expanded capacity their overhead expenses per tonne of production should also come down relatively. further, certain inefficiencies and other historical factors which adversely affect their economies could be expected to be eliminated while carrying out such expansion. As a result, their cost of production could well be expected to come down. As for capital investment they will already have the advantage of the infrastructure of the existing units. As such, we understand that the investment required per unit of expanded production is not likely to be more than half of what would be required in putting up an entirely new plant. In view of all these reasons we do not think there would be justification for allowing to expansions of the existing units the same relief as in respect of the entirely new units. *We feel that it should suffice if an increase equal to half of that suggested for the new units i. e., Rs. 5.00 per extra tonne of cement produced is allowed for the expanded capacity i. e., for the production of expanded units in excess of the licensed capacity of such units prior to such expansion.*

46. Units in the letter of Intent and Cement Development Fund.

46.1. As discussed in detail in paragraphs 15 to 17 there is a wide gap between the existing capacity in the cement industry and the planned target of production at the end of the Fifth Plan period estimated at 28 million tonnes. The various schemes for setting up of new units and expansion of the existing units which are already under the process of realisation and which have been dealt with in paragraph 45 are not sufficient to bridge the gap. As per details obtained from the Ministry of Industrial Development, there are a number of schemes for setting up additional capacity totalling 95.37 lakhs tonnes which are at present only in the "letter of intents" stage. A list of such schemes is at Appendix 24. (It is likely that some other parties may also be issued letter

of intent. They should all be considered as part of this list for purposes of the discussion in this paragraph). Unless quick action is taken by the entrepreneurs concerned to go ahead and quickly reach the stage of production in respect of these schemes, the prospects of their materialisation before the end of the Fifth Plan period are bleak. It is an admitted fact that the period required for the setting up of a cement plant is quite long. In the course of our inquiry it was strongly urged that the price at present available to the cement producers is very unremunerative, that on account of the highly inflationary situation the capital investment involves for the setting up of a new unit is very heavy and that the prospects of obtaining adequate loans from the various financial institutions are quite doubtful. It was contended by many representatives of the industry that in the face of such difficulties no entrepreneur was likely to be really seriously interested in setting up a new unit or expanding an existing unit (inspite of the "letter of intent") unless a substantial incentive was made available to him. There is considerable force in these submissions and we examine below the possible solutions to this urgent problem.

46.2. In paragraph 45 we have dealt with the new units/expansion of existing units which are already in the process of being set up and given our recommendations for suitable relief in respect of such units. It appears to us that the relief to be given to the units which are still in the "letter of intent" state (*vide* Appendix 24) has necessarily to be more substantial than to the units already dealt with in paragraph 45 for two reasons. With the marked increase in the prices on account of the present inflationary pressures. the capital investment required in the case of these units is bound to be substantially higher—some think it will be double or almost double—than that of the units dealt with in paragraph 45. Secondly, because of the sudden spurt in prices it is not at all likely that the increased depreciation will be fully compensated by economies possible by further technological improvements, if any, during the price period. Both these aspects have to be taken note of in any solution.

46.3. One possible way of solving this problem would be for the Government to give a general assurance that the matter would be looked into when the new production capacity actually comes into existence and that the retention price fixed will suitably reflect the burden of the heavier capital investment and the increased cost of production. We, however, feel that this kind of general assurance may not prove an effective incentive. We, therefore, propose to quantify the effect of these two types of burdens on the basis of the material available with us at present and suggest the method by which these burdens can be taken care of in a practical way in the hope and expectation that such quantification will give the necessary fillip to the entrepreneur to get on with the job of creating new capacity speedily with the confidence that he will get his due reasonable return.

46.4. Taking the second aspect first we find that the increased depreciation will, even after making an allowance for all posssible economies, put up the cost of production substantially. To meet this increased cost to a degree we feel that a sum of about Rs. 15.00 per tonne should be allowed to such units over and above that of the units mentioned in paragraph 45 or Rs. 25.00 per tonne over the price to the existing units dealt with in paragraph 42. This increase has of necessity to be reflected in the retention price. We therefore, recommend that an additional price of Rs. 15.00 per tonne over that allowed to the units mentioned in paragraph 45 (i.e. Rs. 25.00 per tonne over the basic retention price granted to the existing units mentioned in paragraph 42) should be allowed to such units. The position for expansion of a unit will be somewhat different. For reasons similar to the ones mentioned in paragraph 45. the additional price to be granted in their case should be less by about half. In other words, this should be Rs. 8.00 over the price to a unit covered by paragraph 45 or Rs. 13.00 over the basic price to a unit covered by paragraph 42 depending upon which unit has undertaken this expansion. The additional price will be allowable only in respect of the expanded capacity i.e., for the production of the expanded unit in excess of the licensed capacity of

that unit prior to such expansion. In addition to this we have to provide interest free loans for the additional capital investment or service charges thereon as discussed in the subparagraphs 46.6 onwards.

46.5. In effect we are suggesting a three tier price system—one price for existing units, another for those units which are in the process of being set up and likely to go into production in the near future, and still another for those which are still in the "letter of intent" stage and not likely to start production till towards the last couple of years of the price period. The cumulative effect on the consumer of these price increases is likely to be considerable by the end of the Fifth Plan period particularly if the price indices continue to rise and the scheme of escalation indicated in paragraph 44 has to be brought into play. The only way to neutralise part of these increases is by a suitable adjustment of central excise duty particularly in case of new production. The Government may like to consider its feasibility.

46.6. As for the heavy capital investment involved in expansion or setting up new units, the problem is basically one of finding the necessary finance and its servicing charges. As mentioned earlier the investment required for such units is likely to be double or almost double of that required for setting up units mentioned in para 45. We were told that the financial institutions have their own constraints and their own criteria, and even with the money the entrepreneur may get as loans from the financial institutions and the money that he may be able to raise from his internal resources there would still be a gap of about half the investment required. From the detailed discussion that took place on this issue during the public inquiry it seems reasonable to conclude that the difficulty of the entrepreneur in raising all the money from the existing financial institutions was likely to prove genuine and that a more assured form of providing finance to bridge the gap should be explored.

46.7. The suggestion that appealed to us in this connection is that of the creation of a kind of revolving fund to be managed by the Government from which loans could be

granted to the entrepreneurs interest free. After giving considerable thought to this matter we feel that such a fund should be created. The salient features of this revolving fund—or Cement Development Fund as it could be called—could be as follows :—

46.7.1. The Fund could be created on the pattern of the Shipping Development Fund with necessary modifications. The nucleus could be started with a compulsory levy on all cement produced. Necessary legal powers may have to be taken for the purpose. A convenient method could be levy of a cess. This could be supplemented by a matching grant by the Government and some temporary interest free loans if the need arises. The levy could be collected by the producers like central excise duty and straightaway credited to the Fund. The Fund could be administered by a Cement Development Fund Committee which would assess the need for the additional finance required for (i) those who are putting up entirely new plants and (ii) those who want to increase the capacity of their units by expansion. This amount could be disbursed in instalments *pari passu* with the progress of the Project and in certain proportion to the funds raised and invested by the entrepreneur himself. To avoid discrimination, the assessment of assistance will have to be worked on a general pattern and not separately for individual needs. The Fund is intended to supplement the normal assistance available from the financial institutions and not to replace it.

46.7.2. The assistance will be in the form of interest free loans for a fairly longish period say 10–15 years and repayable in equal annual instalments after a moratorium period of five to eight years from the grant of the loan. Necessary penalties for default will also have to be laid down. The loan has to be interest free, otherwise it will disturb the price mechanism as the interest charges will have to be reflected in the retention price.

46.7.3. The above is only a bare outline of the scheme. Detailed modalities will have to be worked out by the Government when bringing the scheme into operation.

46.7.4 Our broad assessment, based on the present information available with us, is that to help create new capacity of about nine million tonnes, a Contribution of Rs 20.00 per tonne of all cement produced will be required. To make the whole of this sum as a levy on the present consumer will be too much of a burden on him when seen in the context of the general increase in retention price that we are recommending. *Increase in cement production is in the interest of the national economy as a whole and not that of the cement consumer alone and hence we feel that half of the contribution should come from the levy and half from a matching grant as mentioned in paragraph* 46.7.1.

46.8. It is of course just possible that in view of the price increase that we have recommended for the existing units and for the ones that are about to go into production shortly, the cash flow of the units that have secured "letters of intent" may improve and they may find less difficulty in rasising the whole of the additional finance from the financial institutions. In that case no Fund will be required and all that would be necessary would be to add a further element to the additional price recommended in paragraph 46.4 to take care of the servicing charges on this additional investment. But what is more likely is that except for a few fortunate ones, the other entrepreneurs may still continue to find it very difficult to raise the whole additional finance required from the financial institutions. It is, therefore preferable to start the nucleus of a revolving fund. Hence our recommendation to that effect. The quantum of conributions to it by levy and by a matching grant—suggested by us can be considered for adjustment by the Government depending upon the likely need of such finance as assessed by the Fund Committee.

46.9. The Cement Industry is at present in bad shape and some bold steps are necessary to lift it out of this morass. We feel that if adequate assistance is given to the Industry by way of price increase and other measures suggested, it should be in a position to expand speedily to fulfil the targets for the Fifth Plan period that the Government has in mind.

CHAPTER XIII

SUMMARY OF THE CONCLUSIONS AND RECOMMENDATIONS

47.1. Our conclusions and recommendations are summarised as under :

47. Summary of conclusions and recommendations.

Taking everything into consideration we have decided to recommend a uniform ex-works retention price for the existing units of the industry. We feel that fixation of a uniform ex-works retention price for the industry as a whole with the added concessions to be given in special circumstances mentioned in paragraphs 31.11.2, 45 and 46 will be the best solution for the rapid development of the Industry on the one hand and safeguarding the genuine interests of the consumer on the other.

[Paragraphs 36.5 and 36.6]

47.2. We do not see any reason to offer any special price to Travancore Cements for its production of OPC.

[Paragraph 36.8]

47.3. In view of the added concessions indicated in paragraphs 31.11.2 and 45 there is no case for continuing any more the extra price which is at present being given to Assam Cements.

[Paragraphs 36.9]

47.4.(a) As regards the contention that labour cost as a percentage of total cost of production has been going down whereas the proportion of salaries, allowances etc., is going up, it is observed that the modernisation of factories results in an increase in the productivity of labour by the use of smaller labour force and by increasing the extent of mechanisation of various jobs and operations.

(b) For the consideration of this issue the relevant forum would be a body such as the Industrial Committee on Cement itself and the Tariff Commission can hardly have any observations to make on this issue beyond making the general observation that as mechanisation increases a fall in the labour cost as a percentage of the total cost is not an unnatural or unusual phenomenon.

[Paragraph 38.2.9]

47.5. The cost of packing material inclusive of incidental expenses has been considered separately from the retention price.

[Paragraph 38.2.10.1]

47.6. The general pattern of similarities as well as disparities which was observed at the time of the 1961 Report more or less continues even at present. In the absence of any regional or zonal similarities, therefore, we do not think it either possible or necessary to consider a regionwise fixation of prices.

[Paragraph 38.4]

47.7. We have followed the well recognised system of weighted averages for arriving at the overall costs of the industry.

[Paragraph 39.2.5]

47.8. Escalations should be provided for major elements of costs namely, wages and dearness allowance, price of coal, power tariff and freight on coal and limestone as per details in paragraph 44.

[Paragraph 39.2.6]

47.9. The prices that are being recommended by us for the future should be prevalent for a period of about five years i.e. they should be valid till 31st March, 1979.

[Paragraph 39.3]

47.10. In the light of the facts stated in paragraphs 16.2 to 16.5 an estimate of capacity utilisation at 85 per cent for the industry as a whole, taking into consideration all the units in production as on 1-1-1974 would be a fair one.

[Paragraphs 39.4.1 & 16.5]

47.11 We do not consider that any general relief is necessary for transportation of limestone from long distances. However we have in paragraphs 33.7.5.2, 33.7.5.3, 33.7.5.4 and 33.8 made recommendations concerning the relief which should be given to some of the units which were set up before the freight pooling system was introduced in 1956.

[Paragraphs 39.4.3 & 33.8]

47.12. We have considered it appropriate for the purpose of this inquiry to include the minimum bonus as an item of cost.

[Paragraph 39.4.6]

47.13. Some of the units may have to use furnace oil as fuel due to circumstances completely beyond their control. Such units may require special consideration as elaborated in paragraphs 23.3 and 23.4. An indication of the adjustment that may have to be made in their case is given in paragraph 44.4.2.

[Paragraph 39.4.8]

47.14. A sum of Re. 0.50 per tonne of cement may be earmarked for centrally organised R and D activities. This sum will form part of the retention price but its utilisation will be as indicated in paragraph 29.6.

[Paragraphs 29.6 & 39.4.14]

47.15. The ex-works cost of naked cement is estimated at Rs. 117.00 per tonne.

[Paragraph 39.4.16]

47.16. We consider that a return of about 14 per cent on capital employed would be a fair estimate. In terms of absolute figures this works out to a round sum of Rs. 15.00 per tonne.

[Paragraph 40.8]

47.17. Under the present circumstances provision of a suitable allowance for rehabilitation has become a compelling necessity. We feel that a fair quantum for rehabilitation allowance would be Rs. 4.00 per tonne and that it should form part of the retention price. The Government will have to evolve a methodology to ensure that rehabilitation allowance is kept in a separate account and is not misused. We suggest the creation by Government of an account like the "Development and Rehabilitation Account" created in 1962. Its details and modalities may be worked out by Government in consultation with the industry.

[Paragraphs 41.2, 41.4 and 41.5]

47.18. The final ex-works price to the industry works out to Rs. 136.00 per tonne.

[Paragraph 42.1

47.19. For the reasons discussed in detail in paragraphs 20.2.9 and 21.2.10, we are not in favour of fixing a differential retention price for PBFS cement and PPC. However, certain concessional treatment to these two types of cement has been recommended by us in these paragraphs with a view to encourage and augment their production.

[Paragraph 42.2]

47.20. The total selling and distribution expenses inclusive of selling agents' commission have necessarily to form part of the f.o.r. destination price. For the future we have estimated such selling expenses at Rs. 3.50 per tonne including the selling agent's commission at Rs. 1.50 per tonne.

[Paragraph 43.1]

47.21. Since the system of quarterly fixation of packing material cost which is at present in vogue, has been found to be working satisfactorily, no change therein is considered necessary for the future as well.

[Paragraph 43.2]

47.22. Taking into consideration the estimate of the heavy capital investment involved, we have come to the conclusion that it would be fair to allow to the new units in the category mentioned in the list at Appendix-23 which commence production during the price period, an additional sum of Rs. 10.00 per tonne of cement produced over the rice recommended by us for the existing units.

[Paragraph 45.5]

47.23. The same considerations as in respect of new units will apply to expansion of the existing units, subject to certain modifications. We feel that it should suffice if an increase equal to half of that suggested for new units i.e. Rs. 5.00 per extra tonne of cement produced is allowed for the expanded capacity i.e. for the production of expanded units in excess of the licensed capacity of such units prior to such expansion.

[Paragraph 45.6]

47.24. The units listed at Appendix-24 should be granted an additional price of Rs. 15.00 per tonne over that allowed to the units mentioned in paragraph 45 (i. e., Rs. 25.00 per tonne over the basic retention price granted to the existing units mentioned in paragraph 42). The position for expansion of a unit will be somewhat different. For reasons similar to those mentioned in paragraph 45, the additional price to be granted in their case should be less by about half. In other words, this should be Rs. 8.00 over the price to a unit covered by paragraph 45 or Rs. 13.00 over the basic price to a unit covered by paragraph 42 depending upon which unit has undertaken this expansion. The additional price will be allowable only in respect of the expanded capacity i.e. for the production of the expanded unit in excess of the licensed capacity of that unit prior to such expansion. In

addition to this we have to provide interest free loans for the additional capital investment or service charges thereon.

[Paragraph 46.4]

47.25. In effect, we are suggesting a three tier price system—one price for existing units, another for those units which are in the process of being set up and likely to go into production in the near future, and still another for those which are still in the "letter of intent" stage and not likely to start production till towards the last couple of years of the price period. The cumulative effect on the consumer of these price increases is likely to be considerable by the end of the Fifth Plan period. The only way to neutralise part of these increases is by a suitable adjustment of Central Excise Duty particularly in case of new production. The Government may like to consider its feasibility.

[Paragraph 46.5]

47.26. We feel that a revolving fund to be managed by the Government from which loans could be granted to the entrepreneurs interest free (such a fund could be called the Cement Development Fund) should be created. The salient features of such a fund have been indicated in paragraphs 46.7.1 and 46.7.2. The details given therein are only a bare outline of the scheme. Detailed modalities will have to be worked out by the Government when bringing the scheme into operation.

[Paragraph 46.7]

47.27. Our broad assessment based on the present information available with us is that to help create new capacity of about nine million tonnes an assistance of Rs. 20.00 per tonne of production will be required. To make the whole of this sum as a levy on the present consumer will be too much of a burden on him. We feel that half of the assistance should therefore come from the levy and half from a matching grant by Government.

[Paragraph 46.7.4]

47.28. The general consensus of technical opinion now is in favour of 1200 tonnes per day (i.e. 400,000 tonnes per year) capacity plant being taken as the economic size in the present conditions in India. The units with smaller plants which account for about 60 per cent of the total units in the industry would, therefore, do well to try to expand at least to this economic size. We suggest that applications for expansion from these units to reach the level of eoncomic size of 1200 tonnes per day should be encouraged and considered sympathetically by the Government in relaxation of the present restrictions, legal or otherwise, if any.

[Paragraph 11.5]

47.29. Since the trend is to go in for still higher capacity plants to take maximum advantage of economies of scale, we should gradually plan for bigger size plants and equipment required therefor. We agree with the approach suggested by the Task force No. V in this connection, which is reproduced in paragraph 11.6 and commend it for the consideration of the Government.

[Paragraph 11.6]

47.30. Even though the normal trend should be to have plants of bigger size it does not obviate the necessity, of having to put up small plants in special circumstances, geographical or otherwise where plants of bigger size may not be that appropriate. It will be in the overall national interest to locate even smaller plants at such places for instance, in the hilly regions or areas which are difficult of access provided adequate lime-stone deposits are within easy reach. This approach will help not only to correct regional imbalance but will also cut down unnecessary long rail haulage and heavy transport costs.

[Paragraph 11.7]

47.31. Our immediate concern should be increased production in the shortest possible time, and therefore, those whether in the public sector or the private sector who have the necessary expertise and can raise the necessary

finance should be encouraged in every practical way to give concrete shape to this objective. This pragmatic approach would go a long way towards bosting the output of cement in coming years and fulfilling the target set for the Fifth Plan period.

[Paragraph 12.4]

47.32. Since the major portion of additional capacity (9.54 million tonnes) is still in the "letter of intent" stage, and the actual setting up of relevant cement plants is a long way off, it is necessary that the Government should keep the position under close watch to ensure that difficulties of implementation, if any, are promptly attended to and the intending parties enabled to translate into concrete action the "letters of intent" issued to them.

[Paragraph 13.2]

47.33. We feel that even though there is at present a shortage of cement for domestic consumption, export of cement should not be discouraged, since it is necessary to keep our foot-hold in the export market as a long term policy.

[Paragraph 14.12]

47.34. Our aim should be to step up productive capacity and production to meet the domestic demand as well as the demand for exports. This can be achieved by allowing expansion of the existing units located at the port areas or towns as well as by encouraging setting up of a new units in such areas. In this connection the Cement Corporation of India which is a public sector undertaking can also play a significant role.

[Paragraph 14.13]

47.35. The export incentives should be kept under constant review and adjusted from time to time to ensure that exporters are not put to any loss and that on the other

hand if possible they have a slight edge over others to make them redouble their efforts to produce more for exports.

[Paragraph 14.14]

47.36. In the event of export becoming quite lucrative for the industry instead of being a source of loss under the changing circumstances Government, while naturally encouraging exports to the maximum extent possible, should also ensure that it mops up most of such fortuitous profits by appropriate measures.

[Paragraph 14.14]

47.37. It would be safer for us to make our own assessment of capacity utilisation in this country rather than base our conclusions on a comparision with the situation obtaining in foreign countries.

[Paragraph 16.1]

47.38. We see no reason to differ from the estimate made by such a responsible body as the Task Force. We have therefore, adopted the estimate of demand of 28 million tonnes made by the Task Force as our estimate of demand of cement at the end of the Fifth Plan period.

[Paragraph 17.2]

47.39. Since the total production of PBFS cement from the existing units as well as from the new units may not go beyond three million tonnes it would appear that there is no likelihood of reaching the demand of six million tonnes estimated by the Task Force in the coming years. Concerted efforts on the part of the concerned authorities as well as producers would, therefore, be needed to fill the gap between the estimated demand and likely supply of PBFS cement.

[Paragraph 20.2.5]

47.40. With expected increase in the demand for production of PBFS cement there is a likelihood of the price of BFS also going up further in the future. Consequently unhealthy competition for obtaining BFS might develop between the various producers. Such a trend would be very undesirable and we feel that BFS should be made available to producers of PBFS cement, at their plants, whether in the private or the public sectors, at a uniform reasonable price. With a view to ensuring this we feel that the question of fixing a uniform reasonable price for BFS to the various producers should be entrusted to a Co-ordinating Committee on which could be represented, *inter alia*, the steel plants, the cement producers and the Cement Controller. In order to encourage the use of BFS for the production of cement it would be desirable for the price of BFS to be fixed at a level that would give the producer of PBFS Cement an economic edge over the producer of OPC.

[Paragraph 20.2.8]

47.41. The fact that the demand for PBFS cement is not picking up in spite of its attendant benefits indicates that adequate measures to popularise its use among the consumers of cement have not been taken so far. We, therefore, suggest that suitable steps may be taken by the Government to carry out publicity which would result in popularising the use of PBFS cement as an alternative to the use of OPC. Further, since the Government is the major consumer of cement it may consider the issue of instructions to all Government Department to make maximum use of PBFS cement in all constructions where PBFS cement can safely replace OPC.

[Paragraph 20.2.10]

47.42. In order to encourage the production of PPC with fly ash as the base, it would be necessary on the part of thermal power stations to ensure the production of good quality fly ash from the planning stage itself by adopting proper quality control measures. Another aspect where proper planning is necessary by the thermal power stations

is regarding the collection of fly ash in dry form of requisite quality acceptable to the cement industry and its proper storage.

[Paragraph 21.2.8]

47.43. In order to ensure consistent quality of fly ash from the thermal stations free from harmful impurities and also to ensure regular production of PPC on a commercial scale, there is need for accelerating further research in this field. Wide and sustained publicity will also be necessary to educate the public about the advantages of using such cement. Government Departments themselves may have to take the lead in its use as they are the major consumers of cement.

[Paragraph 21.2.11]

47.44. We do not think that keeping the retention price of PPC at the same level as that of OPC is by itself going to prove much of an incentive in the present stage of its development. It is in the national interest that the manufacture of PPC should be encouraged as, *inter alia*, it will increase the availability of cement and also help to conserve good quality limestone. We feel that an added incentive is required to help its speedy development. This incentive can take the form of differential (lower) excise duty on PPC as compared to that of OPC and the Government may like to consider this suggestion. This additional incentive would give a fillip to the industry to manufacture such cement and to give it wide publicity to encourage its use by the public and Government Departments. The position may be reviewed and the question of continuing this concession reconsidered towards the end of the Fifth Plan Period by which time we hope the public apathy towards PPC manufacture and consumer resistance to its use would have been overcome and its use well established.

[Paragraph 21.2.11 and 21.2.12]

47.45. We would like to draw the attention of the Government to the various difficulties experienced by the cement

units in the matter of supply of coal by the collieries to them as detailed in Paragraphs 22.3 and 22.4 and suggest that suitable steps to remedy the situation to the extent possible may be taken. We also commend the suggestion for the demarcation of particular collieries for supply of coal to particular cement units contained in Paragraph 22.5 for Government's consideration.

[Paragraph 22.6]

47.46. We have considerable sympathy with the lot of the producers who just do not find it possible to get adequate supplies of coal. It means either their cutting down production or incurring heavy losses. Since cement is an item which is needed for industries at home and, as a foreign exchange earner for export, the desideratum should, therefore, be to speed up production of cement to the maximum extent possible. It is, therefore, desirable that all units which are using furnace oil should be encouraged to switch over or switch back to coal and Government should facilitate such a changeover.

[Paragraph 23.4]

47.47. One of the ways in which supply of uninterrupted power to cement units could be ensured is to encourage the cement units to instal and work their own generating sets so that production of cement is rapidly stepped up to meet its increasing demand. We, therefore, recommend that proposals from cement units for the setting up of and working their own generating sets should be considered sympathetically by the authorities concerned.

[Paragraph 24.2]

47.48. (a) We are particularly concerned about the unduly long delivery period taken by the manufacturers for the supply of major items of stores and spares such as heavy steel castings, steel plates and large gear boxes. Since the supply of most of these items is met by the public sector undertakings, Government may look into the matter for such steps as may be considered necessary to expedite the delivery of such items.

(b) Such units as are not in a position to procure their requirements of materials such as M.S. plates and M.S. angles from indigenous sources should be permitted to import them on an ad-hoc basis. We suggest that Government may take appropriate measures in this regard.

[Paragraph 25.2]

47.49. Some suggestions were made to us to have the capacity of the Cement Machinery Manufacturers reassessed. However, in view of the observations made by the Task Force No. V (on Machine Tools, Industrial Machinery and Allied Industries *vide* paragraph 26.4.1) we do not see any necessity for suggesting reassessment.

[Paragraph 26.4.3]

47.50. The real problem of cement machinery manufacturers is their entire dependence for supplies of major components on public sector undertaking such as Hindustan Steel, Heavy Engineering Corporation, Ranchi and Heavy Electricals, Bhopal. The Primary need, therefore, would be to assess the capacity of these undertaking to supply components without undue delay and to take suitable measures to gear up their production programme so as to ensure timely supply of complete cement plants by the cement machinery manufacturers with a view to meeting the target of production of cement during the Fifth Plan period. The remedial measures necessary in this connection have already been indicated in Paragraph 25.2.

[Paragraph 26.4.4]

47.51. In the light of the detailed examination of cost increases in the cement making machinery including electricals since the year 1969, the Study Group set up by the Task Force for Cement industry suggested that the matter may be looked into further by the Task Force V on Industrial Machinery particularly with a view to examining the steps that might be needed to bring down the prices of cement making machinery as well as of the casting and electrical items supplied by the H.E.C., Ranchi and Heavy Electricals,

Bhopal. The matter is certainly well worth a study in depth and we hope that as a result of this study and/or such other studies that may be undertaken, Government would find it possible to take necessary steps early to ensure a significant reduction in the prices of cement making machinery.

[Paragraph 26.5.3]

47.52. Since better quality of cement is not necessarily the result of better process or better techniques but due to the availability of better quality/higher grade limestone to the concerned cement factories, we feel that a stage has not yet come where ordinary portland cement can be priced according to the different grades suitable to the technical needs of the consumers.

[Paragraph 28.1]

47.53. Though the general consensus of opinion was that the quality of cement is by and large good, there are complaints about setting time and other damage to cement received by the consumers. Apparently also some of the old bags used by the units are torn and bad. We draw the attention of the industry to such complaints and urge it to make earnest efforts to eliminate the same.

[Paragraph 28.4]

47.54. We feel that in addition to what the individual units may achieve for their own benefit by their research efforts, there is need for a centrally organised R. & D. for the benefit of the industry as a whole. We have suggested in paragraph 39.4.14 that a sum of Re. 0.50 per tonne may be earmarked for centrally organised R & D activities. This sum will form part of the retention price but will be deposited by the producers in a separate "Research Account" which will be at the disposal of the Central Government for assisting the C.R.I.I. and other centrally organised research organisation in their R. & D. work in the interest of the cement industry.

[Paragraphs 29.3 and 29.6]

47.55. The plea of the industry, that a lower freight concession for open wagon transport should be accorded, appears to be justified for reasons elaborated in paragraph 30.1.1.1. We, therefore, suggest that this matter may be considered sympathetically by the Railway Authorities.

[Paragraph 30.1.1.2]

47.56. We suggest that the Railway Authorities concerned in coordination with the cement manufacturers should take suitable remedial measures where necessary to ensure timely supply of adequate wagons to the cement industry and for the proper maintenance of such wagons.

[Paragraph 30.1.3.2]

47.57. The suggestions made by the Railway Board regarding the increased movement in block rakes and setting up of dumps in or near major centres of consumption may be examined by the Cement Controller in close co-ordination with the Railway Authorities.

[Paragraphs 30.1.7.1 and 30.1.7.2]

47.58. We agree that the matter of examining the possibility of improving the packing condition of cement such as using polythene lined bags, as is done in advanced countries, is important enough to be pursued further vigorously by the C.R.I.I. and others concerned since any improvement in the present method of packing will reduce loss of cement by leakage and may also facilitate its movement in open wagons.

[Paragraph 30.1.7.3]

47.59. We feel that in the present stage of our economy it will be in our overall national interest to consider the two means of transport—viz., rail and road—as complementary to each other rather than as competitive. There is, therefore, greater necessity for coordinating the approach and thinking between the Railway authorities, the Cement Controller

and the other authorities concerned in the matter of movement of cement by rail and by road so that the most rational pattern of transport is adopted. The existing limit of 100 kilometres for road transport may also be considered in this background and appropriately extended by the Cement Controller if the coordinated thinking points to that solution as the more satisfactory one.

[Paragraph 30.3]

47.60. Uniformity of F. O. R. destination price is certainly a desirable objective but any steps that reduce the burden of heavy freight charges and long haulage of railway wagons without pushing up the final price of cement to the consumer will be a step in the right direction.

[Paragraph 31.8.1]

47.61. A major portion of the additional capacity of 13 million tonnes is intended to be set up in the deficit zones of the North and the East. This should go a long way in correcting the regional imbalance and also bring down the average lead and consequently the freight costs provided the intended new capacity in various regions is really, installed, and effective remedies are taken for removing the crippling effects of external constraints that inhibit production.

[Paragraphs 31.10.2 and 31.10.3]

47.62. The cost of setting up and working of small plants situated in places in remote areas, some of which are also of strategic importance is likely to be higher; so also the cost of quarrying and transport of limestone on account of difficult terrain involved. Such plants should get some assistance from the freight pool as installation of such plants will save heavy freight charges that would otherwise have been incurred if cement were to be supplied to these areas from distant factories. One way of offering this assistance would be for the producer to be given the F.O.R. destination price by the Cement Controller, but allowed to retain to himself the whole or part of the difference between

the average All-India freight and the freight incurred by the factory in the despatch of its own cement to the nearby areas allotted to it.

[Paragraphs 31.11.1 and 31.11.2]

47.63. Since the starting of new factories in the deficit regions would be of great benefit to the State Governments concerned it would be desirable if they could also consider various steps enumerated in paragraph 31.12 that would encourage setting up of such factories in their areas speedily.

[Paragraph 31.12]

47.64. To encourage split location, the principle of reimbursement of freight normally applicable to cement should be made available to the movement of clinker also as is being done at present in the case of Shree Digvijay Cement Company. This should provide the necessary incentive to the industry for planning split location for their plants.

[Paragraph 32.8]

47.65. When licensing the inter-grinding unit for production of PBFS cement, the authorities concerned will have to take great care to ensure that its location is such that the movement of clinker, BFS or of both is in the logical forward direction towards the cement consuming centres. This precaution is all the more necessary to eliminate problems of movement such cement because it will not be only one unit which will be producing PBFS cement.

[Paragraph 32.11]

47.66. In order that all concerned factories may get the BFS at the same price, it is necessary that freight charges on movement of BFS also are pooled and become part of the general freight pooling system.

[Paragraph 32.12]

47.67. (i) If the inter-grinding unit is at the cement consuming centre and the Cement Controller has allocated only that consuming centre for the consumption of the entire cement produced in that inter-grinding unit, the question of granting further freight charges to such cement will not arise.

(ii) One can visualise a position where the cement produced by an inter-grinding unit whether it is located near a steel plant or a clinker plant or a consuming centre, cannot be wholly consumed in its immediate neighbourhood. It will, therefore, have to be moved to other consuming centres as allocated by the Cement Controller. There is no reason why such movement, which has the concurrence of the Cement Controller, should not form part of the freight pooling system even though the movement of clinker and BFS to the inter-grinding unit for the production of this cement might have also participated in the freight pooling system.

[Paragraph 32.13]

47.68. As in the case of BFS/clinker, movement of fly ash also should become part of the freight pooling system; as elaborated in paragraph 32.14 so also the movement of PPC, if, under the allocation orders of the Cement Controller, it has to move to cement consuming centres away from the place of the inter-grinding units.

[Paragraph 32.14]

47.69. The arrangement of freight pooling on a regional basis as suggested by the U.P. Government cannot be implemented unless a particular region is just self-sufficient, neither surplus nor deficit and can be completely sealed off from other regions. When the regional imbalance gets reduced as a result of the various remedial measures recommended by us the incidence of average freight will also, automatically get reduced and the objective desired by the U.P. Government will be achieved to a considerable, extent.

[Paragraph 33.4.3.3]

47.70. In the interest of our overall economy and that of the consumer, the freight pooling system should be continued to ensure equal availability and uniform price of cement all over the country. The position may be reviewed towards the close of the Fifth Plan period to see if any modifications are called for in the system.

[Paragraph 33.6]

47.71. We feel that taking into consideration the spirit in which the freight pooling system was evolved, it would be more equitable if in the areas which are not covered by the Rail system the district town is adopted as the ultimate point of transport to which, beyond the rail head is also covered by the freight pooling system. The supplies to places in between the rail heads and district town and also beyond it will, however, have to be made from the rail head or the district town in the usual way. The Cement Controller may consider the feasibility of this proposal.

[Paragraph 33.7.2]

47.72. The weighted average of lime-stone transport costs of all costed units taken into consideration in our final cost schedule should give the affected factories (*vide* paragraph 33.7.5) some relief. We suggest that if any pre-freight-pooling factories feel that such relief is inadequate, they may approach the Cement Controller who should in each individual case, decide how much relief, if any, is necessary and what portion of the excessive transport charges of their lime-stone is to be reimbursed from the freight pool. As indicated in paragraph 33.7.5.4 no relief will be admissible to the factories that came into existence after the freight pooling system was introduced.

[Paragraph 33.8]

47.73. In the context of acute shortage of cement which is prevailing at present, the recommendation made in paragraph 20.2 of the Commission's 1961 Report is valid even now and in fact assumes even greater importance. We, therefore, reiterate this recommendation as reproduced below for appropriate action.

"Government authorities and Project authorities as the largest consumers of cement should programme their indents evenly throughout the year so as to cause the least disturbance to cement production and also to avoid strain on the Railways in seasons of peak transport."

[Paragraph 34.2.5]

47.74. In connection with the allegations of black marketing in cement and exploitation of consumers by corrupt practices, the Commission had observed in its 1961 Report (Paragraph 20.4) that when controls exist, they should be properly enforced by the local authorities and that better control has to be exercised by the cement factories and their sole selling agents over the lower tiers of distribution system. We reiterate, for necessary action, the recommendation made by the Commission in its 1961 Report.

[Paragraph 34.3.2.2]

47.75. We feel that greater check and more effective supervision by the indenting Government Departments, Public Sector Undertakings and other organisations concerned is called for to plug this potential source of leakage viz., the Government quota of cement. The producer must also display a greater sense of responsibility and exercise a greater degree of vigilance so that malpractices on the part of their dealers are stopped.

[Paragraphs 34.3.2.4 & 34.3.2.5]

47.76. The root cause of the entire problem of malpractices is of course the acute shortage of cement. The main solution, therefore, lies in the stepping up of production so that the existing situation of scarcity is remedied. The various measures that we have suggested in this Report are *inter alia* aimed at that objective.

[Paragraph 34.4]

47.77. We understand that in the case of some commodities for example, sugar, tobacco and certain textile fabrics

the Government of India have, under the provision of additional duty of excise (Goods of Special Importance) Act 1957, the legal power to charge an additional excise duty in lieu of sales-tax by the States and to reimburse the States in an appropriate manner. Cement well qualifies for the definition of "Goods, of special importance". We suggest that if and when Government in consultation with the State Governments consider the question of enlarging the scope of this legislation, they may consider the desirability of including 'cement' also as one of the items therein.

[Paragraph 35.3]



CHAPTER XIV

ACKNOWLEDGEMENTS

48.1. We cannot conclude this Report without expressing our thanks to all those who have helped us in our task. We wish to express our thanks to the manufacturers of cement and their Association, namely, Cement Manufacturers' Association, consumers of cement and their Associations, particularly the Builders' Association of India, the Consumer Guidance Society and the Fair Trade Practices Association, Research Institutions, Labour Unions, Financial Institutions/Corporations, Cement Machinery Manufacturers and the concerned State and Central Government Departments who furnished us with valuable information in connection with this inquiry and whose representatives tendered evidence before us. We are also grateful to Shri R. D. Shah, the President of the Cement Manufacturers' Association, Dr. Visweswariya, Director of the Cement Research Institute of India and Shri B. V. Raju, Chairman of the Cement Corporation of India who met us as and when requested for discussions on various issues arising out of the deliberations at the public inquiry and otherwise. Our thanks are also due to the Chief Cost Accounts Officer, Ministry of Finance for sparing the services of his Cost Accounts Officers for costing some of the cement units.

48. Acknowledgements

48.2. We also wish to place on record our warm appreciation of the hard work put in by Officers and staff of our office engaged on this inquiry.

D. P. ANAND,
Chairman.

S. S. SAXENA,
Secretary

PRAMOD SINGH,
Member.

BOMBAY;
Dated 30th March, 1974.

M. B. PALEKAR,
Member.

17—4 T.C. Bom./74

APPENDIX I

(*Vide* Paragraph 2.4)

Letter of Government Reference to the Commission

No. 18(3)/Tar/72

GOVERNMENT OF INDIA

Ministry of Foreign Trade

EXPRESS DELIVERY

New Delhi, the 28th April, 1972

To

The Secretary,
Tariff Commission,
C. G. O. Building,
Bombay.

SUBJECT : —*Comprehensive review of the cement industry in India—Revision of fair ex-works prices payable to the producers—reference regarding—*

Sir,

I am directed to invite a reference to the report (1961) made by the Tariff Commission on the 26th August, 1961 on the question of the revision of fair ex-works prices payable to the cement producers. The recommendations of the Tariff Commission in this report were accepted by the Government of India with certain modifications *vide* their resolution No. Cem-8(27)/61 dated the 31st October, 1961.

2. Since then *ad hoc* increases have been allowed by the Government in the ex-works prices payable to cement producers, and these have now risen to as much as Rs. 100 per tonne. Some of the increases have been allowed in the wake of increases in the prices of inputs, while others have been of an anticipatory nature. In the absence of a detailed enquiry, however, it is not possible to say whether the increases sanctioned have conformed to the actual changes in the pattern of costs of the industry. While in some cases the incidence of increased costs might have been more than that actually allowed, in others the latter might have been excessive looking at the increased volume of production, the modernisation of plant and machinery and the scope for reduction in costs, etc.

3. Morever, in the period that has elapsed since the last enquiry, there have been significant changes in the circumstances of the industry.

The capacity of the industry has doubled, new and more modern plants have been set up, the indigenous manufacture of cement machnery has begun and dependence on imported equipment has been reduced. At the same time, the expansion of the industry has not kept pace with the growth in demand for cement. There is at present a marginal shortage which it is apprehended, may become more acute in the following years. Further, the growth of the industry from regional point of view of supply and demand has not been satisfactory, leading to transport difficulties and freight charges.

4. Having regard to these considerations, the Government have come to the view that a comprehensive review of the industry is called for with a view evolving policies that could assist in the more efficient and progressive growth of the industry. The basic objective is to ensure the development of the cement industry in a measure and in a manner that would enable the requirements (including exports) to be met adequately at a minimum cost to the economy.

5. In undertaking the comprehensive review of the cement industry recommending fair ex-works prices payable to the producers, the Tariff Commission may take into account *inter-alia* the following considerations :

(a) the price structure is such as would encourage the growth of the industry and, at the same time, as would exercise greater pressure towards efficiencies and economies in the cost of production.

(b) whether, given the regional imbalances between supply and demand, suitable incentives for the setting up of additional capacity in deficit or near-deficit areas, or a suitable structure of prices, regional or otherwise, may be necessary; and

(c) the necessity for using supplementary raw materials like slag, and pozzalanic materials adequately and the measures as would lead to fuller utilisation of such materials.

6. Arrangements in regard to present freight pooling may be reviewed carefully so as to minimise the burden of transport costs to the consumer and, in particular, to assist in reducing regional imbalances in the development of the industry. Since the freight cost also is a cost to the economy and to the consumer. the relevant consideration should be to minimise the total cost including the production cost and the freight cost. If necessary, having regard to the location of raw materials sources and centres of demand and the transport difficulties, the advantages of split location and the policy to be adopted in such cases may be examined.

7. I am to request the Commission under Section 12(d) of the Tariff Commisison Act, 1951 (50 of 1951) that this study may be undertaken on an urgent basis, and the recommendations/Report of the Tariff Com-

mission furnished to Government as early as possible, preferably not later than the 30-9-1972. The Tariff Commission may also make recommendations of an interim nature pending the submission of its final report.

8. Any further information, if required, in connection with this enquiry may kindly be obtained, direct from the Ministry of Industrial Development (Shri S. K. Rao, Deputy Secretary), Udyog Bhavan, New Delhi, to avoid delay.

Yours faithfully,

(Sd.)

(K. K. DWIVEDI)

Deputy Secretary to the Government of India.



APPENDIX 2

(*Vide* Paragraph 3.3)

Interim Report on the revision of Fair Ex-works prices payable to Cement Producers

The Government of India by the Ministry of Foreign Trade letter No. 18(3)/Tar/72 dated 28th April 1972 have requested the Tariff Commission under Section 12(d) of the Tariff Commission Act, 1951 to undertake urgently a comprehensive review of the cement industry and to recommend fair ex-works prices payable to the producers.

2. The last inquiry by the Tariff Commission into the price structure of the cement industry was in 1961. The Commission's recommendations made in its Report (1961) were accepted by Government with certain modifications by their Resolution dated 31st October 1961. Since then, *ad hoc* increases were allowed by Government from time to time and the last increase raising the price of naked cement payable to producers to Rs. 100/- per tonne was made with effect from 16th April 1969. Some of the increases in costs were allowed in the wake of increase in the prices of inputs while others were of an anticipatory nature. In the absence of a detailed inquiry, it was not possible for Government to assess whether the increases sanctioned by them conformed to the actual changes in the pattern of costs of the industry. Since the last inquiry, there have been significant changes in the circumstances of the industry. Its capacity has doubled, new and more modern plants have been set up and the indigenous manufacture of cement machinery has already begun thereby reducing the dependence on imported equipments. At the same time however, the expansion of the industry has not kept pace with the growth in demand for cement. Further, the growth of the industry from the point of view of regional supply and demand has not been satisfactory leading to transport difficulties and increases in freight charges. In view of these considerations, the Government came to the conclusion that a comprehensive review of the industry was called for. The basic objective of the review was "to ensure the development of the cement industry in a measure and in a manner that would enable the requirements (including exports) to be met adequately at a minimum cost to the economy." Therefore, in undertaking the comprehensive review the Commission has been requested by the Government to bear in mind *inter-alia* the following considerations :—

"(a) The price structure is such as would encourage the growth of the industry and, at the same time, as would exercise greater pressure towards efficiencies and economies in the cos of production ;

(b) whether, given the regional imbalances between supply and demand, suitable incentives for the setting up of additional capacity in deficit or near-deficit areas, or a suitable structure of prices, regional or otherwise, may be necessary; and

(c) the necessity for using supplementary raw materials like slag and pozzalanic materials adequately and the measures as would lead to fuller utilisation of such materials."

3. The Government have also suggested that the Commission may make recommendations of an interim nature pending submission of its final Report.

4. The Commission initiated the inquiry immediately on receipt of the reference. This is a comprehensive review of the cement industry covering all its aspects and the terms of reference are wide. Partly due to the nature of the inquiry and to a large extent due to the Commission's pre-occupation with another priority case, namely, fixation of prices of sugar and also paucity of costing personnel, the cement review could not be completed earlier. In connection with the comprehensive review, questionnaires have been issued to various interests concerned and replies or memoranda have been received from many of them. The voluminous information and data made available to the Commission are being scrutinised. Cost investigation of the 23 selected units has been completed and the data are now being processed. What still remains to be done is to hold a formal public inquiry and to discuss with the representatives of costed units about their actual costs of production and future estimates. It will take some time to complete these formalities and to sumbit the detailed Report. Meanwhile, the industry has been pressing for an interim relief on the ground that the present controlled price of Rs. 100/- per tonne fixed in April 1969 is very low and unremunerative. The Commission has examined the nature and the extent of increases in costs since April 1969 as revealed in the Balance Sheets and Profit and Loss Accounts of the costed units and the studies undertaken by its Cost Accounts Officers and has come to the conclusion that some interim relief should be provided immediately to the industry pending the sumbission of its final Report. Accordingly, this interim Report is being submitted to Government and its scope is restricted to an assessment of increase in cost that needs to be provided for immediately in the controlled price of cement.

5. In 1961 there were 34 units engaged in the manufacture of cement of which 14 belonged to the Associated Cement Companies Ltd. (ACC). The industry now consists of 52 units, 17 of these being in the A. C. C. group. The Commission did not consider it necessary to examine the costs of production of all the units and selected a representative sample comprising 23 factories having regard to the various factors which influence cost, such as, location of the factory, capacity, regional distribution, process of manufacture adopted and age of the plant. Representation has

also been given to public sector units in the sample. Before selecting the cost sample the Commission invited views of the Cement Manufacturers' Association in the matter and held detailed discussions with its representatives on various relevant aspects. These 23 factories were costed by the Cost Officers for the latest accounting year for which audited data were available i.e. 1971 in certain cases and 1971-72 in others. The list of factories selected for costing, together with the years of their establishment, the names of the officers who examined them and the accounting year for which the cost data were examined, is given in Annexure I.

6. A statement, showing costs of naked cement of the 23 units selected for cost investigation as computed by the investigating officers is given in Annexure II. The costs show wide fluctuations from Rs. 70.64 per tonne in the case of A. C. C. unit at Shahabad to Rs. 134.25 in the case of Sone Valley. The weighted average cost of the 23 units works out to Rs. 97.42 per tonne. To this average cost has to be added the incidence on account of increases in the prices of Bengal Slack Grade I coal and Singareni coal effective from 1st September 1972 and 1st February 1973 respectively, surcharge of 10% on power from 1st November 1972, increases in wages and D.A., together with other benefits, which came into operation from 1st June 1972 and 1st January 1973 respectively and the rise in the freight rate on gypsum from 15th April 1972. The cumulative incidence of these increases has been assessed at Rs. 4.78 per tonne of cement. The Commission has not however taken into account the proposed increase in railway freight on coal from 1st April 1973 under the recent Railway Budget introduced in Parliament, the average impact of which works out to 30 paise per tonne of cement. The total weighted average cost for the entire cost sample now comes to Rs. 102.20 (Rs. 97.42 + Rs. 4.78) per tonne of cement.

7. Of the 23 units included in the cost sample, the production cost of 3 viz., Chanda units of A. C. C., Dalla unit of U. P. Cement Corporation and Sone Valley have been found to be relatively very high—even more than Rs. 120 per tonne. As in this interim Report the Commission proposes to recommend only the bare minimum increases in price, alternate costs have been worked out after excluding these three high cost units. The weighted average cost of the 20 units worked out to Rs. 98.93 per tonne inclusive of the recent cumulative increase of Rs. 4.78.

8. During the last five years, the capacity utilisation by the industry as a whole was 83% in 1968, 94% in 1969, 82% in 1970, 77% in 1971 and 83% in 1972. It may also be mentioned that during 1971-1971/72 for which the sample units have been costed, the average utilisation of capacity worked out to 82.38% for all the 23 cost units, and after excluding the three high cost ones, 84.20% for the 20 units. The Commission is conscious of the fact that the cement industry is capable of realising 90% or more of its capacity as is borne out by the actual performance of certain units. However at the present juncture, there are certain inhibiting factors which render it difficult for the industry to attain capacity of such a high order. There have been drastic reductions in power supply

in almost all parts of the country and especially in the south. Though these cuts are of a temporary nature, they are likely to continue for a few more months at least. In the matter of transport, although steps have been taken by Government to augment wagon supply their full effect can be felt only after some time. The industry, while conceding that there has been some imporvement in wagon supply during the last few months enabling it to step up production of cement, has expressed apprehension about the possibility of wagon supply being restricted again in the future, as substantial quantities of foodgrains will have to be transported ty different parts of the country to meet the requirements of drought affected areas during the critical months before the rains. Having regard to these considerations, the Commission consider that for the purpose of this interim Report, it would be more realistic to assume capacity utilisation at 85% of the aggregate installed capacity than pitch it up at a higher theoretical level.

9. For determining the fair ex-works price, the Commission has adopted as hitherto, the method of weighted averages and considered the costs as would be applicable for the immediate future only without making any provision for increases in different elements such as increment for labour and staff, increase in prices of consumable stores and repair cost, etc. Similarly, it has also not taken into account any revision in the amount of depreciation under the written down value method. Nor has it considered the question of rehabilitation allowance, etc. The Commission has adopted this course as it feels that the various issues involved which are likely to push up the final price require a deep and exhaustive study and therefore its interim recommendation should be confined only to what is escapable at present regarding increase in costs of various items.

10. In regard to return to the industry, the Commission has adopted the specific provision of Rs. 14/- per tonne as allowed by the Government in the price structure of cement since January 1966 without going into the adequacy or otherwise of this quantum. This issue in all its aspects including whether the provision or return should be a specific amount per unit of output as at present or a percentage on capital employed in any other form will be considered during the course of the exhaustive inquiry.

11. Comparative figures of weighted average costs and prices for the 23 costed units and the reduced sample of 20 units, computed in the manner indicated in the foregoing paragraphs are set out below :—

Items	For 23 costed units	For 20 costed units i.e. after excluding 3 high cost units
Capacity utilised during the costed years (1971-1971/72)	82·38%	84·20%
	Rs/Tonne	Rs/Tonne
1. Weighted average cost for the costed years (1971-1971/72)	97·42	94·15
2. Increase in costs not included in (1) above	4·78	4·78
3. Weighted average cost	102·20	98·93
4. Weighted average cost at item (3) adjusted to 85% of capacity utilisation	100·40	98·33
5. Return	14·00	14·00
6. Weighted average fair ex-works price	114·40	112·33

12. In its final Report the Commission will have to deal with the state of the industry for the coming three to five years. In the projection of estimates for that purpose due note will have to be taken of likely increases in salaries and wages, prices of stores, costs of repairs and maintenance etc. Depreciation element may also undergo a change. The method of weighted averages adopted so far may also require a second look. As mentioned in para 8 above all such likely variations in costs are being left out of account for purpose of the interim Report as the recommendations in the interim Report are intended to take care of the position for the next few months only. For the final Report while inescapable elements of costs will have to be duly considered, the Commission expects the industry also to make serious efforts to improve its efficiency of working and ensure all possible economies of scale. For all these

reasons the commission proposes to take a conservative view and feels that a price increase of Rs. 10/- per tonne should suffice as a measure of interim relief. The commission accordingly recommends that an increase of Rs. 10/ per tonne may be allowed by Government with immediate effect thereby raising the present controlled price of naked Cement to Rs. 110/- per tonne. This interim price is subject to suitable revision in the light of the final Report of the Commisssion.

13. Government have under the Cement Control Order, 1967 fixed special prices for Travancore Cements Assam Cements and Shree Digvijay Cement Company. The Commission will examine during the course of the full inquiry the need for such special prices and make suitable recommendations in the final Report. Meanwhile, the Commission recommends that t hese special prices may be continued for the present. In addition all these three units may be allowed the increase of Rs. 10/- per tonne recommended for the industry by way of interim relief.

14. The fair ex-works prices recommended in paragraphs 12 and 13 are for naked cement. The present practice of Government notifying quarterly the packing charges may be continued.

15. One of the terms of reference requires the Commission to examine the question of a suitable structure of prices regional or otherwise, to provide incentives for the setting up of additional capacity in deficit or near-deficit areas. This issue will be dealt with at length in the final Report. However, for the present interim Report, the Commission has confined its study to an assessment of the quantum of increases in cost over the price fixed in April 1969 on an all-India basis and is therefore recommending a single uniform price for the entire industry (except for Travancore Cement, Assam Cement and Shri Degvijay Cement Company).

D. P. ANAND,
Chairman.

PROMOD SINGH,
Member.

M. B. PALEKAR,
Member

P. V. GUNISHASTRI
Secre tary.

BOMBAY,
Dated 24th March 1973.

Annexure I

Statement showing the names of costed units together with the year of establishment, latest accounting year costed and the names of the Cost Officers who examined the costs

Name of unit	Year of establishment	Latest accounting year costed	Name of the Cost Officer & designation
1	2	3	4
1. ACC—Chaibasa . .	1947	31-7-72	Shri A. K. Banerji, Cost Accounts Officer, Tariff Commission.
2. ACC—Sevalia . .	1951	31-7-72	Do.
3. ACC—Chanda . .	1970	31-7-72	Do.
4. ACC—Madukkarai .	1934	31-7-72	Do.
5. Shree Digvijay . .	1949	31-12-71	Shri K. P. Sarma, Cost Accounts Officer, Tariff Commission.
6. The Travancore Cements	1949	31-12-71	Do.
7. Mysore Iron & Steel .	1938	31-3-72	Do.
8. India Cements—Sankridurg unit . . .	1963	31-3-72	Do.
9. Chettinad Cement .	1968	31-3-72	Do.
10. Dalmia Dadri . .	1939	31-12-71	Shri J. M. Ayyar, Cost Accounts Officer, Ministry of Finance.
11. ACC—Kymore . .	1923	31-7-72	Do.
12. ACC—Shahabad .	1925	31-7-72	Do.

1	2		4
13. Udaipur Cement Works	1970	30-6-72	Shri K. V. Varadrajan, Cost Accounts Officer, Ministry of Finance.
14. U. P. State Cement Corpn.—Dalla unit . .	1970	31-12-72	Do.
15. Rohtas Industries .	1938	31-3-72	Shri S. N. Misra, Asstt. Cost Accounts Officer, Tariff Commission.
16. Sone Valley . .	1922	31-12-70*	Do.
17. Cement Corpn., Mandhar . . .	1970	31-3-72	Do.
18. Jaipur Udyog .	1953	31-3-72	Do.
19. Kesoram Cements .	1969	4/71 to 3/72	Shri D. C. Ghosh, Asstt. Cost Accounts Officer, Tariff Commission.
20. Panyam Cements .	1959	9/71 to 8/72	Do.
21. Andhra Cements . .	1940	4/71 to 3/72	Do.
22. Orissa Cement . .	1951	1/72 to 12/72	Do.
23. Assam Cements . .	1966	30-6-72	Shri R.K. Seth, Asstt. Cost Accounts Officer, Ministry of Finance.

**Cost adjusted upto* 31-3-72.

Annexure II(a)

Statement showing the capacity and production of cement of the costed units in 1971/1971-72

Sl. No.	Units	Capacity as reported by the Cement Controller	Production of Cement	% to total production
1	2	3	4	5
		Tonnes	Tonnes	
1	Kymore	8,07,490	6,01,200	8.05
2	Shahabad	5,73,970	5,00,040	6·70
3	Chaibasa	7,82,000	4,54,000	6·08
4	Sevalia	2,03,180	2,06,400	2·76
5	Chanda	4,00,000	2,61,700	3·50
6	Madukkarai	3,84,440	3,17,280	4·25
7	Assam Cement	83,810	66,700	0.89
8	Dalmia Dadri	2,38,730	1,97,003	2.64
9	Udaipur	2,00,000	1,94,294	2·60
10	Kesoram	4,50,000	2,97,915	3·99
11	Andhra Cement	2,40,000	1,94,326	2·60
12	Chettinad	4,00,000	2,50,665	3·35

1	2	3	4	5
13	Bhadravati	99,560	94,406	1.27
14	Jaipur Udyog	10,00,000	7,00,540	9·38
15	India Cement	6,00,000	4,88,805	6·55
16	Rohtas	3,35,340	3,14,837	4·23
17	Dalla Cement	4,32,000	3,41,000	4.57
18	Orissa Cement	4,01,000	4,44,413	5·95
19	Mandhar	2,00,000	1,64,118	2·19
20	Panyam	3,88,000	4,02,349	5·39
21	Digvijay	5,40,000	7,76,064	10·40
22	Travancore	50,790	53,837	0·72
23	Sone Valley	2,53,970	1,45,167	1·94
	TOTAL .	90,64,280	74,67,059	100·00

सत्यमेव जयते

Annexure II(b)

Statement showing the total costs and depreciation per tonne of cement

Units	Total** Costs	Depreciation
1	2	3
	Rs.	Rs.
1	92·53	24·97
2	80·44	12·46
3	98·09	8·57
4	102·77	27·77
5	109·92	3·63
6	134·25@	1·92
7	89·91	5·70
8	98·12	1·06
9	98·13	1·09
10	103·79	27·36
11	98·07	2·03
12	81·30	1·29
13	106·74	3·29
14	104·83	25·54

सत्यमेव जयते

1	2	3
15	95·55	17·25
16	106·38	13·03
17	123·72@	36·85
18	94·19	12·93
19	113·10	5·12
20	79·22	8·93
21	126·54@	44·33
22	70·64	4·09
23	119·22	10·53
Weighted Average	97·42	11·80

**Subject to minor variations after detailed study.

@The average of 20 units excluding the three marked (@) is Rs. 94·15.

NOTE—(i) The costs of Assam and Travancore Cements have been arrived at after deducting the special prices of Rs. 23·50 and Rs. 20·25 respectively attached to them.

(ii) To maintain the confidential nature of costs of each unit the names of units are not given here but are referred to by code numbers. [The order being obviously different from II(a)].

APPENDIX 3

[*Vide* Paragraph 4.2]

List of parties to whom the Commission's questionnaires/ letters were addressed and from whom replies/memoranda

*Indicates those who replied to the questionnaires or submitted memoranda.

(A) *Government Departments:*

*1. The Secretary to the Government of India, Ministry of Industrial Development, Udyog Bhavan, New Delhi-11.

*2. The Cement Controller, Government of India, D-1/A, N. D. S. E. Part II, New Delhi-49.

*3. The Director, Fuel Research Institute, Jealgora P. O. Dhanbad Dist. (E. Rly.) Bihar.

*4. The Coal Controller, 1, Council House Street, Calcutta-1.

*5. The Director, Indian Standards Institution, Manak Bhavan 9, Bahadur Shah Zafar Marg, New Delhi-1.

*6. The Director General of Technical Development (Cement Directorate,) Udyog Bhavan, New Delhi-11.

*7. The Secretary, Planning Commission, Yojana Bhavan, Parliament Street, New Delhi-1

*8. The Secretary, Central Board of Excise & Customs, Ministry of Finance, North Block, New Delhi 1.

9. The Director, Geological Survey of India, Jamnagar House, Shahjahan Road, New Delhi-11.

*10. The Secretary, Railway Board, Rail Bhavan, New Delhi-1.

*11. The Director, Council of Scientific & Industrial Research, Rafi Marg, New Delhi-1.

*12. The Jute Commissioner, 20, British Indian Street, Calcutta-1.

*13. The State Trading Corpn. of India Ltd., (Cement Deptt.), Chandra Lok, 36, Janpath, New Delhi-1.

*14. The Secretary to the Govt. of India, Ministry of Steel, Mines & Metals, (Deptt. of Steel), New Delhi.

*15. The Controller of Mines, Indian Bureau of Mines, Nagpur.

*16. The Secretary to the Govt. of India, Ministry of Labour and Rehabilitation, Department of Labour & Employment, New Delhi.

17. Commissioner of Civil Supplies, Ministry of Industrial Development, Shastri Bhavan, New Delhi.

*18. The Secretary, Tea Board, 14, Brabourne Road, Calcutta-1

19. The Secretary, Maharashtra State Electricity Board, Mercantile Bank Building, Mahatma Gandhi Road, Bombay-1.

*20. The Secretary, Shipping Development Fund Committee, Ministry of Shipping & Transport, Transport Bhavan, Parliament Street, New Delhi-1.

21. Export Promotion Officer, Government of India, Ministry of Commerce, New Delhi-11.

(B) *Embassies High Commissions of India abroad*

*1. Second Secretary (Com.), Embassy of India, 121, Avenue Moiliere, Brussels-1180 (Belgium).

*2. Second Secretary (Com.), Embassy of India, 15, Rue Godot-de-mansion, Paris (France).

3. Counsellor (Commercial), Embassy of India, 262, Adenaueral-lee, Bonn (Federal Republic of Germany).

*4. First Secretary (Com.), Embassy of India, Via Francesco Denza 36, Rome (Italy).

*5. First Secretary (Com.), Embassy of India, 11-go, No. 2, 2-Chome, Kudan, Minnami Chiyodaku, Tokyo (Japan).

*6. First Secretary, Embassy of India, Buitenrustewy 2, The Hague (Netherlands).

*7. Commercial Secretary, Embassy of India, Vastra Tradgards-gatan 15, Stockholm (Sweden).

*8. First Secretary (Com.), Embassy of India, 20, Kalcheggweg, Berne (Switzerland).

*9. First Secretary, High Commission of India, 92, Mugga-Way, Red Hill, Canberra, A. C. T. 2603, Australia.

*10. Second Secretary (Com.), High Commission of India, 200, Maclaren Street, Ottawa-4 (Canada).

*11. Minister (Economic),
High Commission of India,
India House, Aldwych, London W. C. 2 (U. K.).

*12. Consul General, Consulate General of India, 215, Market Street, California, 94105, San Francisco (U. S. A.)

(C) *State Governments :*

1. The Chief Secretary, Government of Andhra Pradesh, Hyderabad.
2. The Chief Secretary, Government of Assam, Shillong.
*3. The Chief Secretary, Government of Bihar, Patna.
*4. The Chief Secretary, Government of West Bengal, Calcutta.
5. The Chief Secretary, Government of Jammu & Kashmir, Srinagar.
*6. The Chief Secretary, Government of Gujarat, Ahmedabad.
7. The Chief Secretary, Government of Kerala, Trivandrum.
8. The Chief Secretary, Government of Madhya Pradesh, Bhopal.
9. The Chief Secretary, Government of Tamil Nadu, Madras.
*10. The Chief Secretary, Government of Maharashtra, Bombay.
11. The Chief Secretary, Government of Karnataka, Bangalore.
*12. The Chief Secretary, Government of Orissa, Bhubaneshwar.
13. The Chief Secretary, Government of Punjab, Chandigarh.
14. The Chief Secretary, Government of Rajasthan, Jaipur.
*15. The Chief Secretary, Government of Uttar Pradesh, Lucknow.
*16. The Chief Secretary, Delhi Administration, 2, Under Hill Road, Delhi-6.
*17. The Chief Secretary, Government of Himachal Pradesh, Simla.
18. The Chief Secretary, Government of Goa, Daman & Diu, Panjim (Goa).
19. The Chief Secretary, Government of Haryana, Chandigarh.
*20. The Chief Secretary, Government of Nagaland, Kohima.
*21. The Chief Secretary, Government of Pondicherry, Pondicherry.
22. The Chief Secretary, Government of Meghalaya, Shillong

(D) *Producers' Association :*

* The Secretary, Cement Manufacturers' Association, Express Building, Churchgate, Bombay-20.

(E) *Producers :*

*1. The Ardhra Cement Co. Ltd., Ramkrishna Building, 38, Mount Road, Madras-6.

*2. Ashoka Cement Ltd., Dalmianagar, Bihar.

*3. Assam Cements Ltd., (A Govt. of Meghalaya Undertaking), 26-A, Cantonment, G. S. Road, Shillong, Meghalaya.

*4. The Associated Cement Cos., Ltd., Cement House, 121, Maharshi Karve Marg, Bombay. 400020.

*5. Bagalkot Udyog Ltd., Air India Bldg., 14th Floor, Nariman Point, Bombay-1.

*6. Birla Jute Mfg. Co. Birlapur, 24, Parganas, West Bengal.

*7. Cement Corporation of India Ltd., (A Government of India Undertaking), Herald House, 5-A, Bahadur Shah Zafar Marg, New Delhi-1.

*8. Chettinad Cement Corporation Ltd., 'Catholic Centre,' 6, Armenian Street, Madras-1.

*9. Dalmia Cement (Bharat) Ltd., Dalmiapuram, Tamil Nadu.

*10. Dalmia Dadri Cement Ltd., Dalmia Dadri, P. O. Charkhi Dadri, Haryana.

*11. Udaipur Cement Works, (A Division of the Hindustan Sugar Mills Ltd.,), 51, Mahatma Gandhi Road, Bombay-1.

*12. The India Cements Ltd., 4th Floor, Dhun Building. 175/1 Mount Road, Madras-2.

*13. Hira Cement Works, (Unit of the Industrial Development Corporation of Orissa), Cement Nagar, P. O. Bardol, Dist. Sambalpur (Orissa).

*14. The Jaipur Udyog Ltd., Sahu Nagar, Sawaimadhopur (W. Rly.), Rajasthan.

15. Jammu & Kashmir Minerals Ltd., (J & K State Government Undertaking), The Bund, Srinagar (Jammu & Kashmir).

*16. Kalyanpur Lime & Cement Works Ltd., 2 & 3, Clive Row, Calcutta-1.

*17. The K. C. P. Ltd., Ramakrishna Buildings, 38, Mount Road, Madras-6.

*18. Kesoram Cement, (Prop. Kesoram Ind. & Cotton Mills Ltd.), 9/1, R. N. M. Road, Calcutta-1.

*19. Madras Cement Ltd., "Ramamandiram" Rajapalaiyam, Tamil Nadu.

*20. Mysore Cements Ltd., "Industry House", 45, Race Course Road, Bangalore-1.

*21. The Mysore Iron & Steel Ltd., Bhadravati (Southern Rly). Karnataka.

*22. Orissa Cement Ltd., Rajgangpur Dist. Sundargarh, Orissa.

*23. Panyam Cements & Mineral Industries Ltd., Cement Nagar P. O. via Bugganipalli R. S., Kurnool Dist. Andhra Pradesh.

*24. Rohtas Industries Ltd., Dalmianagar, Bihar.

*25. Saurashtra Cement & Chemical Industries Ltd., Ranavav (2), Gujarat.

*26. Shree Digvijay Cement Co. Ltd., Shreenivas House, Waudby Road, Fort, Bombay-1.

*27. Sone Valley Portland Cement Co. Ltd., Japla Cement Factory P. O. Japla (E. Rly.), Bihar.

*28. Tamilnad Cements, (Unit of Tamil Nadu Industrial Development Corporation Ltd.), Tamilnad Cements P. O., (via) Rajapalaiyam, Ramanathapuram Dist., Tamil Nadu.

*29. The Travancore Cements Ltd., Nattakom, Kottayam-13 (Kerala State).

*30. Uttar Pradesh State Cement Corpn. Ltd., Mirzapur Dist., Uttar Pradesh.

(F) *Prospective Producers :*

*1. Century Cement (A Division of Century Chemicals), Industry House, 159, Churchgate Reclamation, Bombay-20.

*2. Durgapur Cement Works, E1/21, J. C. Bose Avenue, Steel Town, Durgapur.

3. The Delhi Cloth & General Mills Ltd., Sanskriti Bhavan, Jhandewalan, New Delhi-55.

*4. Jaipur Udyog Ltd., Sahu Nagar, Sawaimadhopur (W. Rly.), Rajasthan.

*5. J. K. Cement Works (Division of J. K. Synthetics Ltd.) Kamla Tower, Kanpur, Uttar Pradesh.

6. J. & K. Minerals Ltd., Srinagar (Jammu & Kashmir).

7. The Palamau Cement Co., Bhawanathpur (Bihar).

*8. The Uttar Pradesh State Cement Corporation Ltd., Churk, Mirzapur (Uttar Pradesh).

(G) *Financial Institutions :*

*1. Andhra Pradesh State Financial Corporation, Post Box 165, 5-9-194, Chirag Ali Lane, Hyderabad-1.

*2. Assam Financial Corporation, Glenerquahrt House, Near Ward Lake, Shillong.

*3. Bihar State Financial Corporation, Fraser Road, Patna-1.

4. Kerala State Finance Corporation, Vellayambalam, Trivandrum-1.

5. Punjab State Finance Corporation, 475, Modi Town, Jullundur.

*6. Rajasthan Financial Corporation, Surya Niwas, C-18, Bhagwandas Road, Jaipur-1.

7. Uttar Pradesh Financial Corporation, 14/88, Civil Lines, Kanpur (Uttar Pradesh).

*8. West Bengal Financial Corporation, 4, Kiron Shankar Roy Road, First Floor, Calcutta-1.

*10. Industrial Finance Corporation of India, Bank of Baroda Bldg., 16, Parliament Street, New Delhi-1.

*11. The Industrial Credit & Investment Corpn. of India Ltd., 163, Backbay Reclamation, Bombay-20.

*12. Industrial Development Bank of India, New India Centre, 17, Cooperage, Bombay-1.

*13. Industrial Reconstruction Corpn. of India Ltd., 19, Netaji Subhas Road, (2nd Floor), Calcutta-1.

(H) *Labour Unions :*

1. All India Trade Union Congress, Shivashakti, Dr. A. B. Road, Bombay-18.

2. Hind Mazdoor Sabha, Nagindas Chambers, Frere Road, Bombay-1.

*3. Indian National Cement & Allied Workers' Federation, Mazdoor Karyalaya, Congress House, Bombay-4.

4. Indian National Trade Union Congress, 427, Military Square Lanes, Bombay-1.

*5. Japla Labour Union, Japla, Bihar.

*6. Rashtriya Mill Mazdoor Sangh, Mazdoor Manzil, G. D. Ambekar Marg, Parel, Bombay-12.

(I) *Consumers :*

1. Tne Chief Engineer, Minor Irrigation, A. P. Hyderabad.

2. The Chief Engineer, Public Health & Panchayat Raj, A.C. Guards, Kashana, Hyderabad-4.

*3. Hyderabad Asbestos Cement Products Ltd., Sanatnagar, Hyderabad-18.

4. Bharat Steel Tubes Ltd., Ganaur (Hyderabad).

*5. Controller of Stores, National Coal Development Corpn. Ltd., Darbhanga House, Ranchi.

*6. Tata Chemicals Ltd., Mithapur, OKHA Mandal, Gujarat.

*7. Indian Concrete Pipe & Construction Co. Pvt. Ltd., Chelthan, Dist. Surat.

8. Ahmedabad Millowners Association, Ranchhodlal Marg, Navrangpura, Ahmedabad-9.

*9. Dy. Secretary to the Govt. of Gujarat, Civil Supplies Dept., Gandhinagar.

*10. Baroda Municipal Corporation, Stores Branch, Kalupara, Nawa Bazar, Baroda-6.

11. The Federation of Gujarat Mills & Industries, Federation Building, R. C. Dutt (Race Course) Road, Baroda-1.

*12. Superintending Engineer, Ukai Canal Circle, Surat.

*13. Executive Engineer, Bridge Works Division, Broach.

*14. Executive Engineer, Public Works Deptt., Capital Project Divn. IV, Gandhinagar.

*15. The Chief Engineer, PWD, B & R, Haryana, Chandigarh.

16. The Stores Purchase Officer, Hindustan Machine Tools Ltd., Pinjore.

17. The Chief Engineer, Mechanical & Stores Deptt., J & K Govt., Srinagar.

18. The Superintending Engineer, Mechanical Const. Division, Salal Hydro Elec. Project, Riasi (J & K State).

*19. Ravi Concrete Pipes Co., Kathua (J & K State).

*20. The Chief Engineer (Civil), Kerala State Elecy. Board, P. B. No. 21, Trivandrum.

21. The Chief Engineer, Irrigation and Gereral, Trivandrum, Kerala State.

*22. The Chief Construction Engineer, Plantation Corporation of Kerala Ltd., Kottayam, Kerala State.

23. The Additional Chief Engineer (C), Kerala State Electricity Board, Idikki-Painavu P. O., Idikki Dist.

24. The Garrison Engineer (Independent), Wellington Island Post, Naval Base, Cochin-4.

25. Prestressed Concrete Industries, 28, Main Tukoganj, Indore (Madhya Pradesh).

26. Superintending Engineer, Bhopal (B & R) Circle, Bhopal.

27. Superintending Engineer, Gwalior (B & R) Circle, Gwalior.

28. The Chairman, Jabalpur Improvement Trust, Jabalpur (Madhya Pradesh).

*29. Superintending Engineer, Bilaspur (B & R) Circle, Bilaspur (Madhya Pradesh).

*30. Chief Engineer, Central Zone, P. B. 84, Peter Path, Jabalpur.

31. Chief Engineer, Central Zone, AFI Building, Napurr-1.

*32. Purchase Officer, Hindustan Organic Chemicals Ltd., Post Rasyani, Dist. Kolaba.

*33. The Indian Hume Pipe Co. Ltd., Construction House, Ballard Estate, Bombay-1 BR.

*34. The Spun Pipe Construction Co. of India Ltd., J.B. Nagar, Sir Mathuradas V sanji (Kurla) Road, Andheri, Bombay-59.

35. Eagle Cement Pipe & Concrete Works, No. 277, Shivajinagar, Sangli.

36. Millowners Association, Elphinston Building, Veer Nariman Rd., Bombay-1.

37. Maharashtra Housing Board, Griha Nirmman Bavan, Bandra (East), Bombay-51.

38. Maharashtra Cement Pipe Industry, Assembly Road, Shahupuri, Kolhapur.

39. The All India Manufacturers' Organisation, 4th Floor, Co-operative Insurance Building, Sir P. M. Road, Bombay-1.

40. The Association of Indian Industries, Co-operative Insurance Building, Sir P. M. Road, Bombay-1.

41. Indian Merchants' Chamber, Indian Merchants' Chamber Bldg., Back Bay Reclamation, Fort, Bombay-20.

42. The Engineering Construction Corpn. Ltd., I. C. House, Dougall Road, Ballard Estate, Bombay-1.

43. Hindustan Construction Co., Construction House, Ballard Estate, Bombay-1.

44. Mackenzies (India) Ltd., Sewri, Bombay.

45. New United Construction & Engg. Co., Pvt. Ltd., Industrial Assurance Bldg., Opp. Church-gate, Bombay-1.

46. Palonji Eduljea & Sons, Palonji House, New Charni Road, Bombay.

47. National Construction Co., Deoghare Mansion, Sitabaldi, Nagpur.

*48. Builders Association of India, United India Building, 2nd Floor, West Wing, Bombay-1.

*49. Chief Engineer, West Coast, 26, ASSAYE Bldgs. Bombay-15.

*50. Shri Vadilal M. Sanghvi Mehta Mansion, Chunabhatti, Bombay-70.

*51. Chief Engineer Irrigation (North), P. B. No. 23, Dharwar.

*52. The Chief Engineer, Irrigation Projects (South), 63, Place Road, Bangalore-1.

53. The Chief Engineer, Communication and Buildings, Post Box No. 51, Bangalore-1.

54. The Chief Engineer, General P. W. D., P. B. No. 40, Bangalore-1.

55. Mysore Construction Engg. Co., Gandhinagar, Bangalore.

56. Chief Engineer, Hirakud Project, Bhubaneshwar.

57. Jagatjit Cotton & Textile Mills Ltd., Phagwara (PB).

58. Cement Fabrics (India), 188-B, Industrial Area, Chandigarh.

59. Precto Arbest & Spun Pipe Co., Chandigarh.

60. Rama Pipe Industries, Sangrur (PB).

61. Jagatjit Industries, Jagajit Nagar, Kapurthala (Pb).

62. The Stores Officer, Rajasthan Atomic Power Project, (Central Stores) P. O. Anushakti, Kota-(Rajasthan).

63. The Chief Engineer, Mahi Project, Banswara (Rajasthan).

*64. The Chief Engineer, Irrigation Deptt. Jaipur.

*65. K. K. Cement Works, Laxmi Cloth Market, Beawar.

66. The Chief Engineer, Highways & Rural Works, Chepauk, Madras-5.

67. The Chairman, Tamilnadu Housing Board, Nandanam, Madras-35.

68. The Virudnagar Chamber of Commerce, Virudnagar (South India).

69. The Tamil Nadu Co-operative Marketing Society Federation Ltd., 89, Poonamallee High Road, Madras-10.

70. The Chief Engineer, PWD Bldgs., Chepauk, Madras-5.

71. The Director, Public Works Department, Govt. of Pondicherry, Pondicherry.

72. Coromandel Engineering Co-op (P) Ltd., 52-53, Jehangir Street, P. B. 1698, Madras-1.

73. Modern Construction Co., 14, Srinivasa Iyengar Road, Alwarpet, Madras.

74. The Director of Stores & Purchase, Oil and Natural Gas Commission, Tel Bhavan, Dehradun.

75. The Stores & Purchase Officer, Oil & Natural Gas Commission, (Directorate of Stores & Purchase) Tel Bhavan, Dehraadun (Uttar Prdesh).

76. U. P. Co-operative Spg. Mills Ltd., Mainpuri Road, Etawah.

77. Juggilal Kamlapat Cotton Spg. Mills Co. Ltd., Lala Kamlapat Road, Kanpur.

78. Rohil Khand Spun Pipes Ltd., Radhey Shayam Bhawan, Bareilly (Uttar Pradesh).

79. The India Cement Pipe Co., 226, Thapar Nagar, Meerut.

80. Allahabad Spun Pipe Co., 33-Darbhanga Castle, Allahabad.

*81. Indian Stores Supply Co., (Jay Prestressed Products), Kosi-Kalan (Uttar Pradesh).

82. Synthetics & Chemicals Ltd., P. O. Bhitaura Rubber Factory Bareilly (Uttar Pradesh).

83. The Director, Central Building Research Institute, Roorkee.

84. New Indian Construction Co., Lal Baug, Lucknow (Uttar Pradesh).

*85. Hind Ceramics Ltd., Rampur (Uttar Pradesh).

86. Concrete Construction Co., Ltd., 29, Waterloo Street, Calcatta-1.

87. Hindustan Engg. & Construction Co., 2, Church Lane, Calcutta.

88. Shasaries Industrial Corpn. 26, Burtolla Street, Calcutta-7.

*89. The Director General, Ordnance Factories, 6, Esplanade East, Calcutta.

90. Chief Engineer, Damodar Valley Corpn. Anderson House, Alipore, Calcutta-27.

91. Bengal Builders & Traders Pvt. Ltd., P-13, Mission Row Extension, Calcutta-1.

*92. Indian Chamber of Commerce, India Exchange, India Exchange Place, Calcutta-1.

93. Engineering Association of India, India Exchange, India Exchange Place, Calcutta-1.

94. Indian Chemical Manufacturers Assn., Indian Exchange Place, Calcutta-1.

95. Indian Engineering Assn., Indian Exchange, 6, Netaji Subhash Road, Calcutta-1.

96. National Federation of Co-operative Sugar Factories Ltd., L8-, South Extension Part-II, New Delhi-49.

97. The Secretary, Railway Board, Rail Bhavan, New Delhi-1.

98. The Chief Engineer, National Bldg. Const. Corpn. Ltd, New Delhi.

99. The Hindustan Housing Factory Jangpura, New Delhi-44.

100. Cement Pipes Corporation, 2-Park Inview, Karol Bagh, New Delhi.

101. Spun Pipe (India) Pvt. Ltd., Flat No. 20, Sundar Nagar, New Delhi-3.

102. Indian Hume Pipe Co. Ltd., Badarpur, New Delhi-44.

*103. Hindustan Prestressed Concrete Structures (P) Ltd., B-6, Asaf Ali Road, New Delhi-1.

104. Buildwell Corpn., 6, Jain Mandir Road, New Delhi.

105. Northern Construction Co., D-25, Defence Colony, New Delhi-3.

106. Federation of Indian Chamber of Commerce and Industry, Federation House, New Delhi.

107. The Directorate General of Civil Supplies, Ministry of Industrial Development, Room No. 309, 'B' Wing, Shastri Bhavan, New Delhi-1.

108. Director General of Supplies and Disposal, Parliament St., Jeevan Tara Buldg., New Delhi-1.

109. The Chief Engineer, MPP & Power Project, Simla.

110. The Chief Engineer, PWD, B & R, H. P. Simla.

*111. General Manager, Indian Ordnance Factories, Gun and Shell Factory, Cossipore, Calcutta-2.

*112. Engineering Construction Corporation Ltd., L & T House, Ballard Estate, P. O. Box 278, Bombay-1.

*113. The Indian Hume Pipe Co. Ltd., Construction House, Walchand Hirachand Marg, Ballard Estate, Bombay-1, BR.

*114. National Buildings Construction Corporation Ltd., 44, Ring Road, Lajpat Nagar III, New Delhi-24.

*115. Hyderabad Asbestos Cement Products Ltd., Sanatnagar, Hyderabad-500018. (India).

*116. Tamilnadu Housing Board, Nandanam, Madras-35.

*117. The Indian Hume Pipe Co. Ltd., Badarpur, New Delhi-110044.

*118. The Plantation Corporation of Kerala Ltd., Kottayam, Kerala State.

*119. Hind Ceramics Limited, 4, Scindia House, New Delhi-110001.

*120. Chief Engineer (Highways and Rural Works), Chepauk, Madras-5.

*121. Office of the Chief Engineer, Mahi Bajaj Sagar Project, Banswara.

*122. Director General of Supplies & Disposals, (Co-ordination Supplies-2), New Delhi.

*123. Suhasaria Industrial Corporation, 26, Burtolla Street, Calcutta-7.

*124. Builders' Association of India, United India Building, 2nd Floor, West Wing, 3B, Sir Phirozshah Mehta Road, Fort, Bombay-400001.

*125. Office of the Superintending Engineer, P.W.D. UKP Canal Construction Circle, Krishnapur, Tk. Shorapur, Dist. Gulbarga.

*126. Commander Works Engineers (P) Makarpura Road, Baroda-9.

*127. Directorate General, Ordnance Factories, 6, Esplanade East, Calcutta-1.

*128. Office of the Superintending Engineer, G. R. C., Hidkal.

*129. Municipal Corporation, City Engineer's Office, Khanderao Market, Baroda-1.

*130. Executive Engineer, PWD, Soil Mechanics & Research Division, Chepauk Madras-5.

*131. Office of the Superintending Engineer, P. W. D., UKP Dam Circle, Almatti, Dam-Site. (P. O).

*132. Office of the Superintending Engineer, Irrig. Project Constn. Circle, Gulbarga.

*133. Research Designs & Standards Organisation Lucknow-11.

*134. Ordnance Factory, Ambajhari, P. O. Ambajhari Defence Project. Nagpur.

*135. Director, I/c, Engineering Research Labs., Himayatsagar, Hyderabad-500030 A.P. (India).

*136. High Explosives Factory, Kirkee, Poona-3.

*137. General Manager, Indian Ordnance Factories, Ordnance Factory, Kanpur.

*138. Ordnance Factory, Tiruchirapalli-16.

*139. Small Arms Factory, Kalpi Road, Kanpur.

*140. Office of the Executive Engineer, M. R. BC. C. Division No. 4, Byahatti (Karnataka).

*141. General Manager, Indian Ordnance Factories, Vehicle Factory, Jabalpur.

(J) *Other Interests :*

*1. Coal Consumers' Association of India, India Exchange, Calcutta-1.

*2. Indian Jute Mills Association, Royal Exchange, 6, Netaji Subhash Road, Calcutta-1.

*3. The Cement Research Institute of India, M-10, South Extension II, Ring Road, New Delhi-49.

*4. Jt. Working Committee of Coal Producers, 6, Netaji Subhash Road, Calcutta-1.

*5. The Director, National Productivity Council, 38, Golf Links Road, New Delhi-3.

6. Chief Engineer, Holtec Engineers Pvt. Ltd., Shahi Bhavan, Exhibition Road, Patna.

*7. Consumer Guidance Society, Hutments J, Mahapalika Marg, Bombay-1.

*8. Fair Trade Practices Association, Great Western Building Mezzanine Floor, 130/132, Bombay Samachar Marg, Bombay-1.

9. Pranava Industrial Services Ltd., 49, Warden Court, Gawalia Tank Road, Bombay-26.

10. Consumer Council of India, 13, Akbar Road, New Delhi-1.

(K) *Cement Machinery Manufacturers :*

*1. ACC—Vickers-Babcock Ltd., "Express Towers", (1st Floor), Nariman Point, Bombay-400 001.

2. The Associated Cement Cos. Ltd., Project Planning & Sales Division, Express Towers 6th Floor, Nariman Point, Bombay-1.

*3. Larsen and Toubro Limited, Cement Machinery Division, Powai Works (West), Saki-Vihar Rd., Bombay-72. (AS).

*4. The K. C. P. Limited, Post Box No. 2278, Tiruvottiyur, Madras-19.

5. Utkal Machinery Limited, Kansbahal P. O., Dist. Sundergarh, Orissa.

*6. McNally Bharat Engg. Co. Ltd., Chartered Bank Buildings, Calcutta-1.

*7. The Indian Sugar and General Engineering Corporation, Yamunanagar-135 001 (Haryana).

*8. Walchandnagar Industries Ltd., Industrial Machinery Division, P.O. Walchandnagar, Dist. Poona, Maharashtra State.

*9. Cement Machinery Manufacturers' Assn., Larsen & Toubro Ltd., Saki Vihar Road, P. B. No. 8901, Bombay-400 072.



APPENDIX 4

[*Vide* Paragraph 4.3]

Units selected for cost investigation

Zone/State	Sl. No.	Name of the unit
1	2	3
North Zone :		
I Haryana	1	Charkhi Dadri (Dalmia Dadri Cement.
II Rajasthan	2	Sawaimadhopur (Jaipur Udyog)
	3	Udaipur (Hindustan Sugar)
III Uttar Pradesh	4	Dalla (U. P. State Cement Corpn.)
East Zone :		
IV Bihar	5	Chaibasa (A. C. C.)
	6	Dalmianagar (Rohtas)
	7	Japla (Sone Valley)
V Meghalaya	8	Cherrapunjee (Assam Cements)
VI Orissa	9	Rajgangpur (Orissa Cement).
West Zone :		
VII Gujarat	10	Sevalia (A. C. C.)
	11	Sikka (Shree Digvijay)
VIII Maharashtra	12	Chanda (A. C. C.)
IX Madhya Pradesh	13	Kymore (A. C. C.)
	14	Mandhar (Cement Corpn.)

APPENDIX 4—*Concld.*

1	2	3
South Zone :		
X Andhra Pradesh	15	Kurnool (Panyam Cements)
	16	Basantnagar, Peddapalli/Ramagundam (Kesoram Cement).
	17	Vijayawada (Andhra Cements)
XI Kerala	18	Kottayam (Travancore Cement)
XII Mysore	19	Bhadravati (Mysore Iron)
	20	Shahabad (A. C. C.)
XIII Tamil Nadu	21	Madukkarai (A. C. C.)
	22	Puliyur/Karur (Chettinad)
	23	Sankaridurg (India Cements)

सत्यमेव जयते

APPENDIX 5

[*Vide* Paragraph 4.4]

List of factories visited by the Commission and its Officers

Sl. No.	Name of the factory/ unit visited	By whom visited	Date(s) of visit
1	2	3	4
	A. *COMMISSION*		
1	A.C.C. Madhukkarai Cement Works, Madhukkarai, Post Coimbatore (Tamil Nadu).	Shri D. P. Anand, Chairman. Shri Pramod Singh, Member. Dr. P. V. Gunishastri, Secretary.	27-10-72
2	Udaipur Cement Works, Udaipur	Shri D. P. Anand, Chairman. Shri M. B. Palekar, Member. Dr. P. V. Gunishastri, Secretary.	27-2-73
3	Jaipur Udyog Ltd., Sawai-madhopur.	Shri D. P. Anand, Chairman. Shri M. B. Palekar, Member. Dr. P. V. Gunishastri, Secretary.	28-2-73
4	Bhupendra Cement Works, Surajpur.	Shri D. P. Anand, Chairman. Shri M. B. Palekar, Member. Dr. P. V. Gunishastri, Secretary.	2-3-73

APPENDIX 5—*Contd.*

1	2	3	4
5	Shree Digvijay Cement Works, Sikka.	Shri D. P. Anand, Chairman. Shri Pramod Singh, Member. Dr. P. V. Gunishastri, Secretary.	26-3-73
6	Saurashtra Cement Works, Ranavav.	Shri D. P. Anand, Chairman. Shri Pramod Singh, Member. Dr. P. V. Gunishastri, Secretary.	27-3-73
7	A. C. C. Cement Works, Porbandar.	Shri D. P. Anand, Chairman. Shri Pramod Singh, Member. Dr. P. V. Gunishastri, Secretary.	28-3-73
8	U.P. State Cement Factory, Churk.	Shri D. P. Anand, Chairman. Shri Pramod Singh, Member. Dr. P. V. Gunishastri, Secretary.	9-4-73
9	U.P. State Cement Factory, Dalla.	Shri D. P. Anand, Chairman. Shri Pramod Singh, Member. Dr. P. V. Gunishastri, Secretary.	10-4-73
10	Rohtas Industries Ltd., and Ashoka Cements Ltd., Dalmianagar.	Shri D. P. Anand, Chairman. Shri Pramod Singh, Member. Dr. P. V. Gunishastri, Secretary.	11-4-73

APPENDIX 5—*Contd.*

1	2	3	4
11	Sone Valley Portland Cement, Japla.	Shri D. P. Anand, Chairman. Shri Pramod Singh, Member. Dr. P. V. Gunishastri, Secretary.	12-4-73
12	Cement Research Institute, New Delhi.	Shri D. P. Anand, Chairman. Shri Pramod Singh, Member. Dr. P. V. Gnnishastri, Secretary.	16-4-73
13	A.C.C. Sevalia Cement Works, Sevalia.	Shri S. S. Saxena, Secretary.	13-10-73
14	Birla Cement Works, Chittorgarh.	Shri S. S. Saxena, Secretary.	15-10-73
15	Dalmia Dadri Cement Ltd., Charkhi Dadri.	Shri S. S. Saxena, Secretary.	16-10-73
16	Shree Digvijay Cement Works, Sewree, Bombay.	Shri D. P. Anand, Chairman. Shri Pramod Singh, Member. Shri M. B. Palekar, Member. Shri S. S. Saxena, Secretary.	11-10-73

B. *OFFICERS*

1	Mandhar Unit of Cement Corporation of India Ltd., P.O. Mandhar Cement Factory, Distt. Raipur (M.P.)	Shri S. N. Misra, Asstt. Cost Accounts Officer.	25-1-73 to 2-2-73
2	Rohtas Industries Ltd., Dehri-on-Sone (Bihar)	Do.	13-2-73 to 19-2-73

APPENDIX 5—*Contd.*

1	2	3	4
3	Sone Valley Portland Cement Co. Ltd., Japla.	Shri S. N. Misra, Asstt Cost Accounts Officer	7-2-73 to 12-2-73
4	Head offices of (i) Jaipur Udyog Ltd., and (ii) Mardhar Unit of Cement Corporation of India Ltd., Delhi.	Do.	20-2-73 to 23-2-73
5	Jaipur Udyog Ltd., Sawaimadhopur.	Do.	24-2-73 to 3-3-73
6	Shree Digvijay Cement Co. Ltd., Sikka.	Shri K. P. Sharma, Cost Accounts Officer	16-1-73 to 22-1-73
7	Chettinad Cement Corpn. Ltd., Madras (Head Office).	Do.	2-2-73 to 10-2-73
8	Sankridurg Unit of India Cements Ltd., Madras (Head Office).		
9	Chettinad Cement Corpn. Ltd., Puliyur Cement Factory.	Do.	13-2-73 to 17-2-73
10	Sankaridurg Unit of India Cement Ltd., Sankaridurg (Factory.)	Do.	11-2-73 to 13-2-73
11	Travancore Cements Ltd., Nattakom.	Do.	18-2-73 to 22-2-73
12	Mysore Iron & Steel Ltd., Bhadravati.	Do.	23-2-73 to 27-2-73
13	Orissa Cement Ltd., Rajgangpur.	Shri D. C. Ghosh, Asstt. Cost Accounts Officer.	2-2-73 to 9-2-73

APPENDIX 5—*Contd.*

1	2	3	4
14	Kesoram Cement Ltd., Basantnagar.	Shri D. C. Ghosh, Asstt. Cost Accounts Officer.	3-3-73 to 5-3-73
15	Kesoram Cement Ltd. (Head Office) Calcutta.	Do.	10-2-73 to 13-2-73
16	Panyam Cement Ltd., Cementnagar P.O.	Do.	26-2-73 to 2-3-73
17	Andhra Cement Co., Vijayawada.	Do.	6-3-73 to 8-3-73
18	Andhra Cement Co., Madras (Head Office.)	Do.	9-3-73
19	Rohtas Industries Ltd., Dalmianagar.	Shri S. N. Misra Asstt. Cost Accounts Officer.	5-2-73
20	ACC Chanda Cement Works, Chanda.	Shri M. S. Marballi, Technical Director (Chemicals).	1-3-73
21	Chettinad Cement Corpn. Ltd. Puliyur.	Shri S. N. Raghavan, Cost Accounts Officer.	1-3-73 to 2-3-73
22	Sankaridurg Unit of India Cement Ltd., Sankaridurg.	Do.	2-3-73
23	The India Cements Ltd. Madras (Head Office).	Do.	27-2-73 to 28-2-73
24	Chettinad Cement Corpn. Ltd., Madras (Head Office).	Do.	4-3-73 to 5-3-73
25	Travancore Cement Ltd., Nattakom.	Do.	3-3-73

APPENDIX 5—*Contd.*

1	2	3	4
26	Andhra Cement Co. Ltd., Madras.	Shri S. N. Raghavan, Cost Accounts Officer.	26-2-73 to
27	Panyam Cement Factory .		27-2-73
28	ACC., Bombay (Head Office)	Shri A. K. Banerjee. Cost Accounts Officer	Feb., 1973 and 1st week of March 1973
29	A.C.C. Kymbre . . .	Shri J. M. Ayyar, Cost Accounts officer, Ministry of Finance.	5-12-72 to 12-12-72
30	A.C.C., Shahabad.	Do.	15-12-72 to 21-12-72
31	Shree Digvijay Cement Works, Sewree, Bombay.	Shri M. S. Marballi, Tech. Director (Chemical). Shri M. G. Jawle, Director (Review & Research). Shri K. V. C. Rao, Asstt. Director.	11-10-73
32	Assam Cements Ltd., Shillong.	Shri R. K. Seth, Asstt. Cost Accounts Officer, Ministry of Finance.	From 13-12-72
33	Dalmia Dadri Cement Ltd., Charkhi Dadri.	Shri J. M. Ayyar, Cost Acccunts Officer, Ministry of Finance.	24-12-72 to 30-12-72
34	U.P. State Cement Corpn. Ltd., Dalla.	Shri Varada Rajan Cost Accounts Officer Ministry of Finance.	From 15-1-72
35	Udaipur Cement Co., Ltd. Udaipur.	Do.	From 24-1-72

APPENDIX 6

[*Vide* Paragraph 4.5]

Names of persons who attended the Public Inquiry held on 8th, 9th, 10th, 11th and 14th May, 1973

Sl. No.	Name	Representing
A. *Producers' Association*		
1	Shri R. D. Shah	Cement Manufacturers' Association, Express Building, Opp. Churchgate Railway Station, Bombay-20.
2	Shri R. P. Nevatia (Represented Udaipur Cement also)	
3	Dr. K. R. Paymaster	
4	Dr. G. M. Pandya	
5	Shri N. A. Samant	
6	Shri V. M. Rangnekar	
7	Shri S. V. Joshi	
B. *Producers*		
8	Shri J. V. Somayajulu	Andhra Cement Co. Ltd., Ramkrishna Building, 38, Mount Road, Madras-6.
9	Shri A. K. Jain (Represented Rohtas also)	Ashoka Cement Ltd., Times House, 4th Floor, 7, Bahadur Shah Zafar Marg, New Delhi-1.
10	Shri M. P. Jain	
11	R. N. Pande	
12	Shri P. K. Mistri	The Associated Cement Cos. Ltd., 121, Maharshi Karve Marg, Bombay-20.
13	Shri N. Dandekar	
14	Shri S. R. Dolasa	
15	Shri P. N. Bam	
16	Shri A. R. Contractor	
17	Shri S. P. Vora	
18	Shri K. M. Desai	
19	Shri R. N. Haksar	
20	Shri P. S. Shroff	
21	Shri J. J. Mistry	
22	Shri N. R. Hilloowala	
23	Shri S. M. Jayarao	
24	Shri Ranvir Khatau	

APPENDIX 6—*Contd.*

Sl. No.	Name	Representing
25	Shri P. R. Balakrishna	The Associated Cement co. Ltd., 121, Maharshi Karve Marg, Bombay-20.
26	Shri S. F. Balsara	
27	Shri B. R. Shah	
28	Shri A. P. Divecha	
29	Shri H. J. Canteenwala	
30	Shri V. G. Ghate	
31	Shri B. N. Reporter	
32	Shri K. Coorlawala	
33	Shri B. K. Kanoria	Bagalkot Udyog Ltd., Air India Building, Nariman Point, Bombay-1.
34	Shri S. S. Agrawal	Birla Cement Works (Birla Jute Mfg. Co. Ltd.) 15, India Exchange, Calcutta-1.
35	Shri R. Narayanan	Chettinad Cement Corpn. Ltd., 'Catholic Centre' 6, Armenian St., Madras-1.
36	Shri N. H. Dalmia	Dalmia Cement (Bharat) Ltd. Dalmiapuram, Madras (Tamil Nadu).
37	Shri S. Rajaratnam	
38	Shri S. K. Bahl	
39	Shri Y. H. Dalmia	
40	Shri Vishnu Kumar	Dalmia Dadri Cement Ltd., Dalmia Dadri, P. O. Charkhi Dadri, Haryana.
41	Shri S. C. Ray	Hira Cement Works, Cement Nagar, P.O. Bardol, Dist. Sambalpur.
42	Shri A. K. Chandra Sekhar	
43	Shri K. S. Narayanan	The India Cements Ltd., 4th Floor, Dhun Building 175/1, Mount Road, Madras.
44	Shri M. Neelakantan	
45	Shri T. S. Subramaniam	
46	Shri P. S. Kailasam	
47	Shri S. Y. Krishnaswamy	
48	Shri K. Ramamurthy	
49	Shri M. R. Bhandari	Jaipur Udyog Ltd., Sahu Nagar, Sawaimadhopur (W. Rly.), Rajasthan.
50	Shri S. M. Sundaram	
51	Shri A. P. Jain	
52	Shri W. Chaudhari	
53	Shri C. P. Krishnamurthy	Kalyanpur Lime & Cement Works Ltd., 2 & 3, Clive Road, Calcutta-1.

APPENDIX 6—*Contd.*

Sl. No.	Name	Representing
54	Shri G. Sivasankaran	Madras Cements Ltd., Rammandiram, Rajapalaiyam, Madras.
55	Shri S. A. Wankhade	Mysore Cements Ltd., 'Industry House', 45 Race Course Rd., Bangalore-1.
56	Shri Puttasiddiah	
57	Shri M. Raja Sekhariah	Mysore Iron & Steel Ltd., Bhadravati.
58	Shri J. H. Dalmia	Orissa Cement Ltd., Rajgangpur, Dist. Sundargarh (Orissa).
59	Shri R. P. Shroff	
60	Shri K. Channa Veerappa	Panyam Cements & Mineral Industries Limited, Cement Nagar P.O., Via Buggani-palli R. S., Karnool Dist.
61	Shri T. P. Shreeraman	
62	Shri J. P. Saxena	Rohtas Industries Ltd., Times House, 4th Floor, 7 Bahadur Shah Zafar Marg, New Delhi-1.
63	Shri P. R. Krishnamurthy	
64	Shri R. N. Pandye	
65	Shri U. S. Shetia	Satna Cement Works, (Birla Jute Mfg. Co. Ltd.), P.O. Birla Colony, Satna (Madhya Pradesh).
66	Shri J. N. Prasad	
67	Shri B. D. Somani	Shree Digvijay Cement Co. Ltd., Shriniwas House, Woudby, Fort, Bombay-1.
68	Shri H. S. Sanwal	
69	Shri J. V. Mehta	
70	Shri R. K. Lohiya	Sone Valley Portland Cement Co. Ltd., Times House, 7, Bahadur Shah Zafar Marg, New Delhi-1.
71	Shri Manoj Jain	
72	Shri P. C. Jain	
73	Shri P. Williams	Tamiland Cements (Unit of Tamil Nadu Industrial Development Corporation Ltd.) Tamilnad Cements, P. O. via Rajapalaiyam, Ramnathapuram Dist., Tamil Nadu.

APPENDIX 6—*Contd.*

Sl. No.	Name	Representing
74	Shri S. K. Basu . . .	Udaipur Cement Works, (A Division of the Hindusthan Sugar Mills Ltd.), 51, Mahatma Gandhi Road, Bombay-1.
75	Shri B. K. Tondan, I.A.S. .	The Uttar Pradesh State Cement Corporation Ltd., Dalla Cement Factory, Dalla (Mirzapur).
76	Shri H. K. Jaipuria . .	The Uttar Pradesh State Cement Corporation Ltd., Churk Cement Factory, Churk (Mirzapur).
C. *Prospective Producers*		
77	Shri J. N. Rathi . . .	Century Cement, 'Industry House,' 159, Churchgate Reclamation, Bombay-20.
78	Shri S. S. Agarwal . .	J. K. Cement Works, J. K. Cotton Mills Premises, Kalpi Road, Kanpur.
79	Shri V.K. Agarwal . .	
D. *Consumers*		
80	Shri Shivaji Rao Deshmukh (Member of Parliament) .	Consumer Council of India, 13, Akbar Raod, New Delhi-1.
81	Shri B. V. Apte . . .	Builders Association of India, United India Building, 2nd Floor, Sir P.M. Road, Bombay-1.
82	Shri H. D. Kariya . . .	Office of the Excutive Engineer, Housing East Division, 2nd Floor, Griha Nirman Bhavan, Opp. Kala Nagar, Bandra (East), Bombay-51.
83	Shri G. I. Mansukhani . .	Maharashtra Electricity Board, New Kamani Chambers, 32, Nicol Road, Ballard Estate, Bombay-1.

APPENDIX 6—*Contd.*

Sl. No.	Name	Representing
84	Shri D. S. Pradhan	Indian Hume Pipe Co. Ltd., Construction House, Ballard Estate, Bombay-1.
85	Shri A. R. Doshi	
86	Shri B. R. Adagra	Hindusthan Construction Co., Construction House, Walchand Hirachand Marg, Ballard Estate, Bombay-1.
87	Shri Vadilal M. Sanghvi	Mehta Mansion, Chuna Bhati, Bombay-70.
	E. *Labour Unions*	
88	Shri H. N. Trivedi, MLA	Indian National Cement & Allied Workers Federation, Mazdoor Karyalaya, Congress House, Bombay-4.
89	Shri Jag Narain	Japla Labour Union, P.O. Japla Cement Factory, Dist. Palamau (Bihar).
90	Shri Satishankar Sharma	
91	Shri I. Ranganayakulu	Cement Workers Union, Guntur (Andhra Pradesh).
92	Shri Shaki Ahmed	S.A.P. Mines, Guntur.
93	Shri R. Subramaniam	Wadi Cement Works, Kamgar Union, Wadi, Gulbarga Dist. (Mysore State).
94	Shri Chandrashekhar Chobey	Rohtas Quarries Mazdoor Sangh, Piperdih Lime Stone Quarries, Dist. Rohtas (Bihar).
95	Shri Mangala Prasad	
	F. *Financial Institutes*	
96	Shri M. N. Khushu	Industrial Finance Corpn. of India, Bank of Baroda Bldg., 16, Parliament St., New Delhi-1.
97	Shri H. R. Pujari	Industrial Credit and Investment Corpn. of India, 163, Backbay Reclamation, Bombay-20.

APPENDIX 6—*Contd.*

Sl. No.	Names	Representing
98	Shri N. V. Sitaram . . .	Industrial Development Bank of India, New India Centre, 17, Cooperage, Bombay-1.
	G. *Cement Machinery Manufacturer*	
99	Shri M. H. Pherwani . .	Cement Machinery Mfgrs. Association, C/o The K.C.P. Ltd., 38, Mount Road, Madras-6.
100	Shri Harish M. Malani . .	
	H. *Government Departments*	
101	Shri S. K. Rao, Dy. Secretary	Ministry of Industrial Development, New Delhi.
102	Shri Natarajan, Chief Cement Officer.	Cement Controller, D-I/A, NDSE, Part-II, New Delhi-49.
103	Shri M. R. Reddy, Chief Engineer W. Rly.	Railway Board, New Delhi-1.
104	Shri A. K. Rao, Controller of Stores, W.Rly.	
105	Shri N. C. Basak Development Officer (Cem.)	Directorate General of Technical Development, Udyog Bhavan, New Delhi.
106	Shri P. P. Kapoor	Director General of Supplies & Disposals, Jeewan Tara Bldg., Parliament St., New Delhi-1.
107	Shri D. N. Bhargavan Controller of Mines.	Indian Bureau of Mines, Nagpur.
108	Shri L. Mishra, Dy. Secretary.	Government of Orissa, Industries Dept., Bhubaneswar.
109	Shri Bhupender Singh . .	State Trading Corpn. of India Ltd., (Cement Dept.), Chandra Lok, 36, Janpath, New Delhi.
110	Shri M. Subramanian, Industries Commissioner	Food & Supplies Department, Govt. of Maharashtra, Sachivalaya, Annexe, Bombay-32.
111	Shri M. R. Patil, Under Secretary	

APPENDIX 6—*Contd.*

Sl. No.	Names	Date
112	Shri B. K. Ghosh, Dy. Director	National Productivity Council, 38, Golf Links, New Delhi-3.
113	Shri George Thomas . .	Cement Research Institute of India, M-10, South Extension, II Ring Rd., New Delhi-49.
114	Shri Mohinder Singh, Research Officer.	Directorate General of Civil Supplies, Ministry of Commerce, Room No. 309, B Wing, Shastri Bhuvan, New Delhi.
115	Shri M. Murugkar . .	Indian Standards Institution, Novelty Chambers, M. Shaukatali Road, Bombay.
116	Shri S. M. Prasad, Food Commissioner.	Govt. of Bihar, Supply & Commerce Dept. Patna.
117	Shri S. Sharma . . .	Government of Himachal Pradesh, Simla.
118	Shri B. R. Tamta . . .	Commissioner of Food & Civil Supplies, Delhi Administration, Delhi.
I. *Others*		
119	Shri G. Sivraman . . .	Indian Jute Mills Association, Royal Exchange, 6, Netaji Subhash Rd., Calcutta-1.
120	Shri J. D. Mehta . . .	Bombay Share Holders Associatio 1, Bhupen Chambers, 9, Dalal Street, Fort, Bombay.
121	Shri A. D. Pandit . . .	The Marketing Research Corpn. of India Limited, 2A, National Insurance Bldg., Post Box No. 288, Parliament Street, New Delhi.

APPENDIX 7

[*Vide* Paragraph 4.6]

Programme of In-Camera Cost Discussions

Sl. No.	Name of the Unit	Date
1	Rohtas Industries Ltd.	5-5-1973
2	Sone Valley Portland Cement Co. Ltd.	
A. C. C. Units		
3	Chaibasa Cement Works	30-5-1973 & 31-5-1973
4	Sevalia Cement Works	
5	Kymore Cement Works	
6	Chanda Cement Works	
7	Shahabad Cement Works	
8	Madukkarai Cement Works	
9	Mysore Iron & Steel Ltd.	23-5-73
10	Mandhar Unit of Cement Corpn. of India Ltd.	23-5-73
11	Jaipur Udyog Ltd.	5-6-73
12	Udaipur Cement Works of the Hindustan Sugar Mills	4-6-73
13	Shree Digvijay Cement Co. Ltd.	21-5-73
14	Assam Cements Ltd.	25-5-73
15	The Travancore Cement Ltd.	28-5-73
16	Dalmia Dadri Cement Ltd.	28-5-73
17	Sankaridurg Unit of India Cement Ltd.	22-5-73
18	Chettinad Cement Corpn. Ltd.	29-5-73
19	Kesoram Cement Ltd.	2-6-73
20	Panyam Cements & Mineral Industries Ltd.	2-6-73
21	Andhra Cement Co. Ltd.	1-6-73
22	Dalla Unit of U.P. State Cement Corpn. Ltd.	1-6-73
23	Orissa Cement Ltd.	4-6-73

APPENDIX 8

[*Vide* Paragraph 5.7.2]

Changes in f. o. r. destination Prices of Cement from 1-1-1968 *to* 31-12-1973

Period				F.o.r. price of naked cement per tonne	Excise duty per tonne	Packing charges per tonne	Total F.o.r.* price
				Rs.	Rs.	Rs.	Rs.
1968	1-1-68	to	31-3-68	125·53	28·32	18·40	172·25
	1-4-68	to	30-6-68	125·53	28·32	19·10	172·95
	1-7-68	to	30-9-68	125·53	28·32	19·45	173·30
	1-10-68	to	31-12-68	125·53	28·32	20·65	174·50
1969	1-1-69	to	7-1-69	125·53	28·32	22·20	176·05
	8-1-69	to	28-2-69	125·53	28·32	24·55	178·40
	1-3-69	to	31-3-69	125·53	31·63	24·55	181·71
	1-4-69	to	15-4-69	125·53	31·63	27·70	184·86
	16-4-69	to	28-4-69	129·13	32·54	27·70	189·37
	29-4-69	to	30-6-69	129·13	30·68	27·70	187·51
	1-7-69	to	30-9-69	129·13	30·68	27·45	187·26
	1-10-69	to	31-12-69	129·13	30·68	25·00	184·81
1970	1-1-70	to	31-3-70	129·13	30·68	25·55	185·36
	1-4-70	to	3-4-70	129·13	30·68	26·32	186·13
	4-4-70	to	30-6-70	131·13	31·16	26·32	188·61
	1-7-70	to	30-9-70	131·13	31·16	29·57	191·86
	1-10-70	to	23-10-70	131·13	31·16	30·84	193·13
	24-10-70	to	31-12-70	134·33	31·92	30·84	197·09

	1			2	3	4	5
1971	1-1-71	to	31-3-71	134·33	31·92	33·15	199·40
	1-4-71	to	28-5-71	134·33	31·92	34·55	200·80
	29-5-71	to	30-6-71	134·33	32·24	34·55	201·12
	1-7-71	to	6-7-71	134·33	32·24	34·93	201·50
	7-7-71	to	30-9-71	136·83	32·84	34·93	204·60
	1-10-71	to	31-12-71	136·83	32·84	35·05	204·72
1972	1-1-72	to	16-3-72	136·83	32·84	37·95	207·62
	17-3-72	to	31-3-72	136·83	34·21	37·95	208·99
	1-4-72	to	20-4-72	136·83	34·21	38·95	209·29
	21-4-72	to	30-6-72	139·00	34·75	38·95	212·70
	1-7-72	to	30-9-72	139·00	34·75	39·53	213·28
	1-10-72	to	31-12-72	139·00	34·75	39·02	212·77
1973	1-1-73	to	31-3-73	139·00	34·75	37·49	211·24
	1-4-73	to	17-4-73	139·00	34·75	36·88	210·63
	18-4-73	to	30-6-73	141·00	35·25	36·88	213·13
	1-7-73	to	14-9-73	141·00	35·25	35·77	212·02
	15-9-73	to	31-12-73	151·00	37·75	33·52	222·27

*Refers to public Rate. A rebate Rs. 2·00 per tonne and at corresponding relief in excise duty, were available for supplies under Rate Contract and a concession of Rs. 2·00 per tonne was allowed for supplies under Rate Contract (Public Sector).

APPENDIX 9

[*Vide* Paragraph 7.1.]

General information about the Cement manufacturing units in India

Sl. No.	Name of the Company	Location	Year of Commencement of Production & age in 1973	Type of cement produced	Process adopted**	Other Manufacturing activities
1	2	3	4	5	6	7
1	Andhra Cement Co. Ltd.	1. Vijayawada	1940(33)	OPC	Wet	—
2	Ashoka Cement Ltd. .	2. Dalmianagar	1956(17)	OPC, PBFS	Wet	Steel castings
3	Assam Cement Ltd. .	3. Cherrapunjee	1966(7)	OPC	Wet	—

1	2	3	4	5	6	7
4	The Associated Cement Cos. Ltd.	4. Banmore	1922(51)	OPC	Wet	Refactories, mining of coal, gypsum, manufacture of cement making and other machineries (the sales turnover of which ranged between 6 and 10% during the last four financial years ending 31st July 1971).
		5. Bhupendra (Surajpur)	1939(34)	OPC, PPC	Wet	
		6. Chaibasa	1947(26)	OPC, PBFS, RH	Wet	
		7. Chanda	1970(3)	OPC	Dry	
		8. Dwarka	1921(52)	OPC, BSS	Wet	
		9. Jamul	1965(8)	PBFS	Dry	
		10. Khalari	1936(37)	OPC, HP	Wet	
		11. Kistna	1939(34)	OPC	Wet	
		12. Kymore	1923(50)	OPC, RH, PBFS	Wet	
		13. Lakheri	1917(56)	OPC, PPC	Wet	
		14. Madukkarai	1934(39)	OPC, PPC	Wet	
		15. Mancherial	1958(15)	OPC, RH	Dry	
		16. Porbandar	1913(60) 1966(7)	OPC WC	Wet	
		17. Sevalia	1951(22)	OPC	Wet	
		18. Shahabad	1925(48)	OPC, OW, HP	Wet	
		19. Sindri	1955(18)	OPC, PBFS	Wet	
		20. Wadi	1968(5)	OPC, PPC	Dry	
5	Bagalkot Udyog Ltd.	21. Bagalkot	1955(18)	OPC, PBFS	Wet	

APPENDIX 9—*Contd.*

1	2	3	4	5	6	7
6	The Birla Jute Mfg. Co. Ltd.	22. Satna	1959(14)	OPC	Wet	Jute goods, Calcium Carbide including Oxygen & Acetylene gas & staple fibre yarn.
		23. Chittorgarh	1967(6)	OPC	Dry	
7	Cement Corpn. of India Ltd.	24. Mandhar	1970(3)	OPC	Wet	—
		25. Kurkunta	1972(1)	OPC	Wet	—
8	Chettinad Cement Corpn. Ltd.	26. Puliyur (Karur)	1968(5)	OPC	Wet	—
9	Dalmia Cement (Bharat) Ltd.	27. Dalmiapuram	1939(34)	OPC, PPC	Wet/ Dry	Dead burnt magnesite iron ore, cashew, hill produces, Travel agency.
10	Dalmia Dadri Cement Ltd.	28. Charkhi-Dadri	1939(34)	OPC	Dry	Mining of fire clay.
11	The Hindustan Sugar Mills Ltd.	29. Udaipur	1970(3)	OPC	Dry	Sugar Industrial alcohol, confectionery.
12	The India Cements Ltd.	30. Sankarnagar (Talaiyuthu)	1949(24)	OPC, PPC	Wet	Foundry and castings.
		31. Sankaridurg	1963(10)	OPC	Wet	

APPENDIX 9—*Contd.*

1	2	3	4	5	6	7
13	The Industrial Dev. Corpn. of Orissa Ltd. (Hira Cement Works)	32. Bargarh (Hira)	1968(5)	OPC	Wet	Only cement at Hira Works.
14	The Jaipur Udyog Ltd.	33. Sawaimadhopur	1953(20)	OPC, PBFS	Wet	Jute, Jute Bags
15	J & K Minerals Ltd.** .	34. Wuyan	1963(10)	OPC	Wet	—
16	Kalyanpur Lime & Cement Works.	35. Banjari	1946(27)	OPC	Wet	Lime.
17	The K.C.P. Ltd. . .	36. Macherla	1958(15)	OPC	Dry/ Wet	—
18	Kesoram Cement . .	37. Basantnagar (Paddapalli) (Ramagundam)	1969(4)	OPC	Dry	Textile, Rayon, Transparent Paper Refractory, Spun Pipes.
19	Madras Cement Ltd. .	38. Rajapalaiyam (Talukapatti)	1961(12)	OPC	Wet	—
20	Mysore Cement Ltd. .	39. Ammasandra	1962(11)	OPC	Dry	—
21	The Mysore Iron & Steel Ltd.	40. Bhadravati	1938(35)	PBFS	Wet	Pig iron, mild steel, alloy & special steel, ferro-silicon and ferro-alloys, castings, Refractory Bricks, Pipes.

APPENDIX 9—*Contd.*

1	2	3	4	5	6	7
22	Orissa Cement Ltd.	41. Rajgangpur	1951(22)	OPC, PPC PBFS, RH@@	Wet	Refractories, Cement products, Mining activities.
23	Panyam Cements & Mineral Industries Ltd.	42. Bugganipalli	1959(14)	OPC	Wet/ Dry	—
24	Rohtas Industries Ltd.	43. Dalmianagar	1938(35)	OPC, PBFS	Wet	Paper & Boards, Vulcanised Fibre products, Caustic soda and Chemicals, Asbestos, Cement products, Vanaspati.
25	Saurashtra Cement & Chemical Industries Ltd.	44. Ranavav	1960(13)	OPC	Dry	Industrial Salts.
26	Shree Digvijay Cement Ltd.	45. Sikka	1949(24)	OPC, PBFS	Wet	
		@46. Ahmedabad	1966(7)			Asbetos cement products (Pressure pipes & sheets).
		@47. Sewree	1961(12)			
27	Sone Valley Portland Cement Co. Ltd.	48. Japla	1922(51)	OPC	Wet	—
28	Tamilnad Cements (Unit of Tamil Nadu Industrial Development Corporation Ltd.	49. Alangulam	1970(3)	OPC	Wet	—

APPENDIX 9—*Concld.*

1	2	3	4	5	6	7
29	The Travancore Cements Ltd.	50. Nattakom (Kottayam)	1949(24)	OPC, WC	Wet	—
30	U. P. State Cement Corpn. Ltd.	51. Churk	1954(19)	OPC	Wet	—
31	U. P. State Cement Corpn. Ltd.	52. Dalla	1970(3)	OPC	Wet	—

Types of Cement : OPC = Ordinary Portland Cement.
RH = Rapid Hardening Cement.
PBFS = Portland Blast Furnance Slag Cement.
OW = Oilwell Cement.
PPC = Portland Pozzolana Cement.
HP = Hydrophobic Cement.
WC = White Cement.
BSS = Ordinary Portland Cement produced according to British Standard Specification.
@ = Grinding & Packing Plants only.
@@ = Against special orders only.
** = Ministry of Industrial Development.

Sources : (1) Columns 3, 4, 5 and 7 are from replies to the Questionnaire.
(2) Column 6 from the Ministry of Industrial Development.

APPENDIX 10

[*Vide* Paragraph 7.3]

Size of the Cement factories in ascending order prepared on the basis of the licensed capacity given by the Ministry of Industrial Development (*As on* 1-9-1973)

('000 tonnes)

Sl. No.	Name of the unit	Annual licensed capacity
1	2	3
1	Wuyan (J. & K. Minerals)	20
2	Kottayam (Travancore Cement)	51
3	Banmore (ACC)	61
4	Cherrapunjee (Assam Cements)	84
5	Bhadravati (Mysore Iron)	100
6	Ahmedabad (Digvijay)@	100
7	Khalari (ACC)	102
8	Talukapatti, Rajapalaiam (Madras Cement)	190
9	Mandhar (Cement Corporation)	200
10	Kurkunta (Cement Corporation)	200
11	Udaipur (Hindustan Sugar)	200
12	Sewree (Digvijay)@	200
13	Sevalia (ACC)	203
14	Porbundar (ACC)	235*
15	Dalmia Dadri	239
16	Vijayawada (Andhra Cement)	240
17	Japla (Sone Valley)	254
18	Macherla (K.C.P.)	254
19	Kistna (ACC)	259
20	Dalmianagar (Ashoka)	284
21	Sindri (ACC)	305

APPENDIX 10—*Contd.*

1	2	3
22	Bhupendra (ACC)	306
23	Dalmianagar (Rohtas)	335
24	Mancherial (ACC)	335
25	Dwarka (ACC)	340
26	Banjari (Kalyanpur)	346
27	Bagalkot (Bagalkot Cement)	360
28	Lakheri (ACC)	366
29	Madukkarai (ACC)	384
30	Bugganipalli (Panyam)	388
31	Bargarh (Hira Cement)	396
32	Wadi (ACC)	400
33	Puliyur, Karur (Chettinad)	400
34	Chittorgarh (Birla Jute)	400
35	Alangulam (Tamil Nad Cement)	400
36	Chanda (ACC)	400
37	Ammasandra (Mysore Cement)	400
38	Rajgangpur (Orissa Cement)	401
39	Dalla (U. P. State)	432
40	Basantnagar (Kesoram) (Peddapalli/Ramagundam)	450
41	Churk (U. P. State)	475
42	Dalmiapuram (Dalmia Cement, Bharat)	525
43	Sikka (Shree Digvijay)	540
44	Shahabad (ACC)	574
45	Satna (Birla Jute)	581
46	Sankaridurg (India Cement)	600
47	Chaibasa (ACC)	782
48	Kymore (ACC)	807
49	Ranavav (Saurashtra Cement)	863
50	Sankarnagar (India Cement)	913
51	Sawaimadhopur (Jaipur Udyog)	1,000
52	Jamul (ACC)	1,080
		19,760

*Includes 35,000 tonnes capacity for white cement.

@Grinding units of Shree Digvijay Cement Co., whose capacity has been split up into grinding units (Ahmedabad and Sewree) and main unit at Sikka.

APPENDIX II

[*Vide* Paragraph 8.2]

Unit-wise annual licensed capacity according to States and Zones
(*As on* 1-9-1973)

('000 tonnes)

Sl. No.	Name of the unit Zone/State	Annual licensed capacity
1	2	3
	NORTH ZONE	
	I. *Haryana*	
1	Surajpur/Bhupendra (ACC)	306
2	Dalmia Dadri	239
	Haryana Total	545
	II. *Jammu & Kashmir*	
3	Wuyan (J & K Minerals)	20
	III. *Rajasthan*	
4	Chittorgarh (Birla Cement)	400
5	Lakheri (ACC)	366
6	Sawaimadhopur (Jaipur Udyog)	1,000
7	Udaipur (Hindustan Sugar)	200
	Rajasthan Total	1,966
	IV. *Uttar Pradesh*	
8	Churk (U. P. State)	475
9	Dalla (U. P. State)	432
	Uttar Pradesh Total	907
	North Zone Total	3,438

APPENDIX 11—*Contd.*

1	2	3
	EAST ZONE	
	V. *Bihar*	
10	Banjari (Kalyanpur)	346
11	Chaibasa (ACC)	782
12	Dalmianagar (Ashoka)	284
13	Dalmianagar (Rohtas)	335
14	Japla (Sone Valley)	254
15	Khalari (ACC)	102
16	Sindhri (ACC)	305
	Bihar Total	2,408
	VI. *Meghalaya*	
17	Cherrapunjee (Assam Cements)	84
	VII. *Orissa*	
18	Bargarh (Hira Cements)	396
19	Rajgangpur (Orissa Cement)	401
	Orissa Total	797
	East Zone Total	3,289
	WEST ZONE	
	VIII. *Gujarat*	
20	Dwarka (ACC)	340
21	Porbandar (ACC)	200
		35*
22	Ranavav (Saurashtra Cements)	863
23	Sevalia (ACC)	203
24	Sikka (Digvijay)	540@
25	Ahmedabad (Digvijay)	100@
	Gujarat Total	2,281

APPENDIX II—*Contd.*

1	2	3
	IX. *Maharashtra*	
26	Chanda (ACC)	400
27	Sewree (Digvijay)	200@
	Maharashtra Total	600
	X. *Madhya Pradesh*	
28	Banmore (ACC)	61
29	Jamul (ACC)	1,080
30	Uymore (ACC)	807
31	Mandhar (Cement Corpn.)	200
32	Satna (Birla Jute)	581
	Madhya Pradesh Total	2,729
	West Zone Total	5,610
	SOUTH ZONE	
	XI. *Andhra Pradesh*	
33	Kurnool (Panyam)	388
34	Kistna (ACC)	259
35	Macherla (K.C.P.)	254
36	Mancherial (ACC)	335
37	Basantnagar (Kesoram) (Paddapalli/Ramagundam)	450
38	Vijayawada (Andhra cements)	240
	Andhra Pradesh Total	1,926
	XII. *Kerala*	
39	Kottayam (Travancore Cement)	51

APPENDIX 11—*Contd.*

1	2	3
	XIII. *Mysore*	
40	Ammasandra (Mysore Cements)	400
41	Bagalkot (Bagalkot Udyog)	360
42	Bhadravati (Mysore Iron)	100
43	Kurkunta (Cement Corpn.)	200
44	Shahabad (ACC)	574
45	Wadi (ACC)	400
	Mysore Total .	2,034
	XIV. *Tamil Nadu*	
46	Dalmiapuram (Dalmia Cement)	525
47	Madukkarai (ACC)	384
48	Puliyur/Karur (Chettinad)	400
49	Alangulam (Tamilnadu Cements)	400
50	Rajapalaiyam/Talukapatti (Madras Cements) . .	190
51	Sankarnagar/Talaiuthu (India Cements) . . .	913
52	Sankaridurg (India Cements)	600
	Tamil Nadu Total .	3,412
	SOUTH ZONE TOTAL .	7,423
	GRAND TOTAL .	19,760

*Relates to white cement.

@The Ministry of Industrial Development has given us the capacity of Shree Digvijay Cement Company at 840,000 tonnes, which has been split up into Sikka 540,000 tonnes, Ahmedabad 100,000 tonnes and Sewree 200,000 tonnes, on the basis of the information given by the Cement Controller.

APPENDIX 12

(*Vide* Paragraph 10.1)

Capacity utilisation based on the licensed capacity and production of each of the units between 1968 *and* 1973 (*Jan-Sept.*) *as furnished by the Cement Controller*

(In '000 tonnes)

Sl. No.	Name of the unit Zone/State	1968			1969			1970		
		Capacity	Production	Utilisation %	Capacity	Production	Utilisation %	Capacity	Production	Utilisation %
1	2	3	4	5	6	7	8	9	10	11
NORTH ZONE										
	I. *Haryana*									
1	Surajpur/Bhupendra (ACC)	300	341	113.7	300	314	104.7	306	306	100.0
2	Dalmia Dadri . .	198	170	85.9	193	208	107.8	239	214	89.5
	Haryana Total . .	498	511	102.6	493	522	105.9	545	520	95.4

APPENDIX 12

(*Vide* Paragraph 10·1)

Capacity utilisation based on the licensed capacity and production of each of the units between 1968 *and* 1973 (*Jan-Sept.*) *as furnished by the Cement Controller*

(In '000 tonnes)

Sl. No.	Name of the unit Zone/State	1971			1972			1973 (Jan.-Sept).		
		Capacity	Production	Utilisation %	Capacity	Production	Utilisation %	Capacity	Production	Utilisation %
1	2	12	13	14	15	16	17	18	19	20
NORTH ZONE										
	I. *Haryana*									
1	Surajpur/Bhupendra (ACC)	306	299	97·7	306	297	97·1	230	251	109·1
2	Dalmia Dadri . .	239	197	82·4	239	176	73·6	180	143	79·4
	Haryana Total . .	545	496	91·0	545	473	86·8	410	394	96·1

APPENDIX 12—*Contd.*

1	2	3	4	5	6	7	8	9	10	11
	II. *Jammu and Kashmir*									
3	Wuyan (J & K. Minerals)@									
	III. *Rajasthan*									
4	Chittorgarh (Birla Cement)	200	202	101.0	200	245	122.5	200	235	117.5
5	Lakheri (ACC) . .	352	355	100.9	352	339	96.3	366	299	81.7
6	Sawaimadhopur (Jaipur Udyog) . . .	819	801	97.8	819	887	108.3	819	780	95.2
7	Udaipur (Hindustan Sugar)	..	..	..	..	..	..	200	76	38.0
	Rajasthan Total .	1,371	1,358	99.1	1,371	1,471	107.3	1,585	1,390	87.7
	IV. *Uttar Pradesh*									
8	Churk (U.P. State) . .	480	345	71.9	480	391	81.5	475	354	74.5
9	Dalla (U.P. State) . .	..	..	..	..	..	..	..	..	..
	Uttar Pradesh Total .	480	345	71.9	480	391	81.5	475	354	74.5
	NORTH ZONE TOTAL .	2,349	2,214	94.3	2,344	2,384	101.7	2,605	2,264	86.9

1	2	12	13	14	15	16	17	18	19	20
	II. *Jammu & Kashmir*									
3	Wuyan (J. & K. Minerals)@									
	III. *Rajasthan*									
4	Chittorgarh (Birla Cement)	400	252	63·0	400	383	95·6	300	188	62·7
5	Lakheri (ACC) . .	366	256	69·9	366	292	79·8	274	241	88·0
6	Sawaimadhopur . . (Jaipur Udyog) . .	1,000	710	71·0	1,000	688	68·8	750	507	67·6
7	Udaipur (Hindustan Sugar)	200	182	91·0	200	223	111·5	150	93	62·2
	Rajasthan Total .	1,966	1,400	71·2	1,966	1,586	80·7	1,474	1,029	69·8
	IV. *Uttar Pradesh*									
8	Churk (U.P. State) . .	475	342	72·0	475	451	94·9	356	265	74·4
9	Dalla (U.P. State) .	432	84	19·4	432	213	49·3	324	173	53·4
	Uttar Pradesh Total .	907	426	47·0	907	664	73·2	680	438	64·4
	NORTH ZONE TOTAL	3,418	2,322	67·9	3,418	2,723	79·7	2,564	1,861	72·6

APPENDIX 12—*Contd.*

1	2	3	4	5	6	7	8	9	10	11
EAST ZONE										
	V. *Bihar*									
10	Banjari (Kalyanpur) .	350	216	61.7	350	262	74.9	346	272	78.6
11	Chaibasa (ACC) . .	432	362	83.4	432	362	83.8	488	447	91.6
12	Dalmianagar (Ashoka) .	200	130	65.0	200	162	81.0	284	164	57.7
13	Dalmianagar (Rohtas) .	315	344	109.2	315	310	98.4	335	315	94.0
14	Japla (Sone Valley) .	215	193	89.8	215	195	90.7	254	144	56.7
15	Khalari (ACC) . .	100	98	98.0	100	114	114.0	102	110	107.8
16	Shindri (ACC) . .	302	252	83.4	302	284	94.0	305	299	98.0
	Bihar Total . .	1,914	1,595	83.3	1,914	1,689	88.2	2,114	1,751	82.8
	VI. *Meghalaya*									
17	Cherrapunjee (Assam Cements) . . .	80	62	77.5	80	69	86.3	84	55	65.5
	VII. *Orissa*									
18	Bargarh (Hira Cements) .	360	149	41.4	360	202	56.1	396	243	61.4
19	Rajgangpur (Orissa Cements)	401	443	110.5	401	454	113.2	401	384	95.8
	Orissa Total . .	761	592	77.8	761	656	86.2	797	627	78.5
	EAST ZONE TOTAL	2,755	2,249	81.6	2,755	2,414	87.6	2,995	2,433	81.2

1	2	12	13	14	15	16	17	18	19	20
EAST ZONE										
	V. *Bihar*									
10	Banjari (Kalyanpur)	346	249	72·0	346	252	72·8	260	184	70·8
11	Chaibasa (ACC)	782	454	58·1	782	475	60·7	585	399	68·2
12	Dalmianagar (Ashoka)	284	190	66·9	284	213	75·0	210	132	62·9
13	Dalmianagar (Rohtas)	335	326	97·3	335	285	85·1	255	193	75·7
14	Japla (Sone valley)	254	33	13·0	254	103	40·6	190	200	105·3
15	Kalari (ACC)	102	87	85·3	102	106	103·9	76	82	107·9
16	Sindri (ACC)	305	261	86·6	305	221	72·5	233	131	56·2
	Bihar Total	2,408	1,600	66·4	2,408	1,655	68·7	1,809	1,321	73·0
	VI. *Meghalaya*									
17	Cherrapunjee (Assam Cements)	84	74	88·1	84	48	57·1	63	53	84·1
	VII. *Orissa*									
18	Bargarh (Hira Cements)	396	263	66·4	396	332	83·8	297	260	87·5
19	Rajgangpur (Orissa Cements)	401	398	99·3	401	456	113·7	301	290	96·3
	Orissa Total	797	661	83·1	797	788	98·9	598	550	92·0
	EAST ZONE TOTAL	3,289	2,335	71·0	3,289	2,491	75·7	2,470	1,924	77·9

APPENDIX 12—*Contd.*

1	2	3	4	5	6	7	8	9	10	11
WEST ZONE										
	VIII. *Gujarat*									
20	Dwarka (ACC) . .	337	284	84.3	337	312	92.6	340	294	86.5
21	Porbandar (ACC) . .	200	173	86.5	200	182	91.0	200	153	76.5
22	Ranavav (Saurashtra Cements)	533	427	80.1	533	449	84.2	533	400	75.0
23	Sevalia (ACC) . .	201	213	106.0	201	221	110.0	203	184	90.6
24	Sikka (Digvijay) . .	540	338	62.6	540	462	85.6	540	517	95.7
25	Ahmedabad (Digvijay) .	100	69	69.0	100	54	54.0	100	61	61.0
	Gujarat Total . .	1,911	1,504	78.7	1,911	1,680	87.9	1,916	1,609	84.0
	IX. *Maharashtra*									
26	Chanda (ACC) . .	..	..	..	..	..	..	400	101	25.3
27	Sewree (Digvijay) . .	200	133	66.5	200	160	80.0	200	166	83.0
	Maharashtra Total .	200	133	66.5	200	160	80.0	600	267	44.5

1	2	12	13	14	15	16	17	18	19	20
WEST ZONE										
	VIII. *Gujarat*									
20	Dwarka (ACC) . .	340	283	83·2	340	298	87·6	255	244	95·7
21	Porbandar (ACC) . .	200	168	84·0	200	172	86·0	150	132	88·0
22	Ranavav (Saurashtra Cements) . . .	863	416	48·2	863	458	53·1	647	294	45·4
23	Sevalia (ACC) . .	203	216	106·4	203	196	96·6	153	137	89·5
24	Sikka (Digvijay) . .	540	519	96·1	540	516	95·6	405	350	86·4
25	Ahmedabad (Digvijay) .	100	64	64·0	100	44	44·0	75	39	52·0
	Gujarat Total . .	2,246	1,666	74·2	2,246	1,684	75·0	1,685	1,196	71·0
	IX. *Maharashtra*									
26	Chanda (ACC) . .	400	255	63·7	400	283	70·8	300	195	65·0
27	Sewree (Digvijay) . .	200	210	105·0	200	192	96·0	150	159	106·0
	Maharashtra Total .	600	465	77·5	600	475	79·2	450	354	78·7

APPENDIX 12—*Contd.*

1	2	3	4	5	6	7	8	9	10	11
	X. *Madhya Pradesh*									
28	Banmore (ACC) . .	60	72	119.4	60	73	121.7	61	68	111.5
29	Jamul (ACC) . .	1080	503	46.6	1,080	741	68.6	1,080	749	69.4
30	Kymore (ACC) . .	576	532	92.4	576	603	104.7	807	530	65.7
31	Mandhar (Cement Corpn.)	..		..	..		..	200	52	26.0
32	Satna (Birla Jute) . .	555	505	91.0	555	592	106.7	582	593	101.9
	Madhya Pradesh Total	2,271	1,612	71.0	2,271	2,009	88.5	2,730	1,992	72.7
	WEST ZONE TOTAL	4,382	3,249	74.1	4,382	3,849	87.8	5,246	3,868	73.7
	SOUTH ZONE									
	XI. *Andhra Pradesh* .									
33	Kurnool (Panyam) Bugganipalli . . .	372	200	53.7	372	343	92.2	364	313	86.0
34	Kistna (ACC) . .	256	237	92.6	256	199	77.7	259	223	85.7
35	Macherla (K.C.P.) .	254	175	68.9	254	176	69.3	254	204	80.3
36	Mancherial (ACC) . .	334	343	102.7	334	294	88.0	335	282	84.2
37	Basantnagar (Kesoram) (Peddapalli/Ramagundum)	..	..	..	200	165	82.5	200	247	123.5
38	Vijayawada (Andhra Cements)	189	190	100.5	189	192	101.6	201	189	94.0
	Andhra Pradesh Total	1,405	1,145	81.5	1,605	1,369	85.3	1,613	1,458	90.4

1	2	12	13	14	15	16	17	18	19	20
	X. *Madhya Pradesh*									
28	Banmore (ACC) . .	61	63	103·3	61	65	106·6	46	39	84·8
29	Jamul (ACC) . . .	1,080	741	68·6	1,080	763	70·6	810	473	58·4
30	Kymore (ACC) . .	807	590	73·1	807	664	82·3	605	545	90·1
31	Mandhar (Cement Corpn.)	200	183	91·5	200	164	82·0	150	129	86·0
32	Satna (Birla Jute) . .	582	553	95·0	581	646	111·2	436	496	113·8
	Madhya Pradesh Total	2,730	2,130	78·1	2,729	2,302	84·4	2,047	1,682	82·2
	WEST ZONE TOTAL	5,576	4,261	76·4	5,575	4,461	80·0	4,182	3,232	77·3
	SOUTH ZONE									
	XI. *Andhra Pradesh*									
33	Kurnool (Panyam) Bugganipalli . . .	388	375	96·6	388	377	97·2	291	192	66·0
34	Kistna (ACC) . .	259	209	80·7	259	210	81·1	194	181	93·3
35	Macherla (K.C.P.) . .	254	231	90·9	254	229	90·2	191	126	66·0
36	Mancherial (ACC) . .	335	297	88·7	335	259	77·3	251	157	62·5
37	Basantnagar (Kesoram) (Peddapalli/Ramagundam)	450	295	65·6	450	364	80·9	338	187	55·3
38	Vijayawada (Andhra Cements)	240	206	85·8	240	170	70·8	180	132	73·3
	Andhra Pradesh Total	1,926	1,613	83·7	1,926	1,609	83·5	1,445	975	67·5

APPENDIX 12—*Contd.*

1	2	3	4	5	6	7	8	9	10	11
	XII. *Kerala*									
39	Kottayam (Travancore Cement)	50	37	74.0	50	43	86.0	51	42	82.
	XIII. (*Karnataka*) *Mysore*									
40	Ammasandra (Mysore Cements)	200	193	96.5	200	303	151.5	426	387	90.8
41	Bagalkot (Bagalkot Udyog)	193	173	89.6	193	201	101.5	203	218	107.4
42	Bhadravati (Mysore Iron) .	89	71	79.8	89	83	93.3	100	80	80.0
43	Kurkunta (Cement Corpn.)	..	..	..	..	..	..	..		..
44	Shahabad (ACC) . .	568	562	98.9	568	487	85.7	573	487	84.8
45	Wadi (ACC) . .	200	15	7.5	200	204	102.0	400	286	71.5
	Karnataka Total .	1,250	1,014	81.1	1,255	1,278	101.9	1,702	1,458	85.6
	XIV. *Tamil Nadu*									
46	Dalmiapuram (Dalmia Cement)	467	501	107.3	467	524	112.2	467	504	107.9
47	Madukkarai (ACC) . .	403	343	85.1	403	332	82.4	384	364	94.8
48	Puliyur/Karur (Chettinad)	200	83	41.5	200	193	96.5	200	200	100.0

1	2	12	13	14	15	16	17	18	19	20
	XII. *Kerala*									
39	Kottayam (Travancore Cement) . . .	51	39	76·5	51	31	60·8	38	26	68·4
	XIII. (*Karnataka*) *Mysore*									
40	Ammasandra (Mysore Cements)	400	415	103·8	400	374	93·5	300	315	105·0
41	Bagalkot (Bagalkot Udyog)	203	202	99·5	360	264	73·3	270	181	67·0
42	Bhadravati (Mysore Iron)	100	91	91·00	100	96	96·0	75	74	98·7
43	Kurkunta (Cement Corpn.)	—	—	—	200	41	20·5	150	77	51·3
44	Shahabad (ACC)	574	517	90·1	574	490	85·4	430	360	83·7
45	Wadi (ACC) . . .	400	311	77·7	400	323	80·8	300	286	95·3
	Karnataka Total .	1,677	1,536	91·5	2,034	1,588	78·1	1,525	1,293	84·8
	XIV. *Tamil Nadu*									
46	Dalmiapuram (Dalmia Cement)	525	512	97·6	525	496	94·5	394	308	78·2
47	Madukkarai (ACC) . .	384	321	83·6	384	287	74·7	288	158	54·9
48	Puliyur/Karur (Chettinad)	400	241	60·2	400	186	46·5	300	106	35·3

APPENDIX 12—*Contd.*

1	2	3	4	5	6	7	8	9	10	11
49	Alangulam (Tamilnad Cements)	..	..	..	..	..	..	200	32	16.0
50	Rajapalaiyam/Talukapatti (Madras Cements) . .	190	180	94.7	190	192	101.1	190	201	105.8
51	Sankarnagar/Talaiuthu (India Cements) . .	463	459	99.1	463	514	111.0	863	660	76.5
52	Sankaridurg (India Cements)	400	418	104.5	400	484	121.10	400	428	107.0
	Tamil Nadu Total .	2,123	1,984	93.5	2,123	2,239	105.5	2,704	2,389	88.4
	SOUTH ZONE TOTAL .	4,828	4,180	86.6	5,033	4,929	97.9	6,070	5,347	88.1
	GRAND TOTAL .	14,314	11,892	83.1	14,514	13,576	93.5	16,916	13,912	82.2

1	2	12	13	14	15	16	17	18	19	20
49	Alangulam (Tamilnad Cements) . . .	400	275	68·8	400	325	81·3	300	180	60·0
50	Rajapalaiyam/Talukapatti . (Madras Cements) .	190	172	90·5	190	148	77·9	142	91	64·1
51	Sankarnagar/Talaiuthi (India Cements) . .	913	826	90·5	913	762	83·5	685	375	54·7
52	Sankaridurg (India Cements) . . .	600	451	75·2	600	606	101·0	450	364	80·9
	Tamil Nadu Total .	3,412	2,798	82·0	3,412	2,810	82·4	2,559	1,582	61·8
	SOUTH ZONE TOTAL	7,066	5,986	84·7	7,423	6,038	81·3	5,567	3,876	69·6
	GRAND TOTAL .	19,349	14,904	77·0	19,705	15,713	79·7	14,783	10,893	73·7

Source : Cement Controller.

NOTE.—(1) According to the Cement Controller the figures of licensed capacity for 1968 and 1969 were taken on the basis of figures furnished by the Producers and as at the beginning of the year while figures for subsequent years are taken as furnished by the Ministry as at the end of the year.

@(2) Figures for Jammu & Kashmir unit are not included by the Cement Controller in this list.

(3) According to the Ministry of Industrial Development the licensed capacity in 1973 was 19,760 thousand tonnes which included the J & K unit capacity of 20,000 tonnes and 35,000 tonnes of white cement relating to Porbandar unit (ACC), while the capacity according to the Cement Controller is 19,705 thousand tonnes which was exclusive of J & K unit and the capacity for white cement relating to Porbandar.

APPENDIX 13

[*Vide* Paragraph 13.1]

Existing capacity and the Schemes sanctioned for expansion as on 1.9.1973, *according to Ministry of Industrial Development*

(In '000 tonnes)

Zone/State	Existing capacity as on 1-9-1973 (with No. of units in brackets)	Additional capacity sanctioned as on 1-9-1973				Total capacity by the end of Fifth Plan (2+6)
		Industrial Licence	C.O.B.	Letter of intent	Total (3+4+5)	
1	2	3	4	5	6	7
North Zone						
Himachal Pradesh	..	..	..	400(2)	400(2)	400
Haryana	542(2)	..	..	300(1)	300(1)	845
J & K	20(1)	..	..	304(2)	304(2)	324
Punjab	..	..	..	*126(1)	*126(1)	..
Rajasthan	1966(4)	..	852(2)	1960(4)	2812(6)	4778
Uttar Pradesh	907(2)	368(1)	..	1064(3)	1432(4)	2339
TOTAL	3433(9)	368(1)	852(2)	4028(13)	5248(16)	8686
East Zone						
Assam	..	200(1)	..	..	200(1)	200
Bihar	2408(7)	..	330(1)	908(4)	1238(5)	3646

Meghalaya	84(1)	..	200(1)	..	200(1)	284
Orissa	797(2)	..	..	..	..	797
West Bengal	..	..	600(1)	460(2)	1060(3)	1060
TOTAL	3289(10)	200(1)	1130(3)	1368(6)	2698(10)	5987
West Zone						
Gujarat	2281(6)	..	..	200(1)	200(1)	2481
Maharashtra	600(2)	..	..	330(1)	330(1)	930
Madhya Pradesh	2729(5)	..	600(1)	1730(4)	2330(5)	5059
TOTAL	5610(13)	..	600(1)	2260(6)	2860(7)	8470
South Zone						
Andhra Pradesh	1926(6)	100(1)	..	1245(4)	1345(5)	3271
Kerala	51(1)	..	..	..	..	51
Mysore	2034(6)	..	..	570(3) *100(1)	570(3) *100(1)	2604 ..
Tamil Nadu	3412(7)	510(2)	..	66(1)	576(3)	3988
TOTAL	7423(20)	610(3)	..	1881(9)	2491(12)	9914
GRAND TOTAL	19760(52)	1178(5)	2582(6)	9537(34)	13297(45)	3305

*Split location capacity not to be added.

APPENDIX 14

[*Vide* Paragraph 14.6]

Country-wise exports of Cement & Clinker during 1968-69 *in* 1972-73 *as furnished by the S.T.C.*

Qty. Tonnes
Value Rs. in lakhs

Countries	1968-69		1969-70		1970-71		1971-72		1972-73		1973-74 (April-Dec.)	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
1	2	3	4	5	6	7	8	9	10	11	12	13
Cement												
Nepal . .	..	..	..	..	..	..	..	..	..	..	14,784	21·76
Ceylon . .	86,350	95·75	41,258	51·88	24,315	30·21	500	0·68	798	0·78	..	..
Kuwait . .	91,915	118·19			41,465	55·64	46,250	63·99	5,500	4·94	..	..
Damman . .	22,390	32·25	53,572	61·96	14,554	19·78	18,050	24·16	..	..	..	..
Dubai . .	25,002	34·55			76,590	98·71	74,640	100·21	32,100	28·88	35,439	31·90
Muscat . .	5,037	6·62	20,331	22·62	10,312	11·95	20,233	19·71	21,750	21·59	7,650	7·65
Mahe . .	..	..	..	..	..	..	..	..	..	..	..	..
Sachelles . .	500	0·85	..	..	..	..	..	..	..	..	..	..
Yambo . .	..	..	..	..	8,400	11·72	..	..	..	..	..	..
Qtar . .	..	..	..	..	8,200	11·81	19,000	17·96	..	..	..	..

Maldive . .	..	..	..	..	380	0·38	299	0·28	..	..	..	..
Burma . .	..	..	..	..	80	0·20	..	..	..	..	..	..
Abu Dhabi. .	..	..	..	..	..	..	3,640	5·05	410	0·37	525	0·47
Bahrain . .	..	..	..	..	..	..	15,850	21·00	..	..	..	..
Bangladesh .	..	..	..	..	..	..	..	..	134,602	211·60	55,422	89·63
Doha . .	..	..	..	..	..	..	..	..	2,860	2·58	..	..
TOTAL .	232,194	288·21	115,161	136·46	184,296	240·40	198,462	253·44	198,020	270·74	113,820	151·41
Clinker												
Ceylon . .	41,846	45·97	10,500	11·58	10,551	11·96	20,295	23·56	..	..	..	..
Africa . .	..	..	..	..	11,100	14·29	9,652	6·67	..	..	..	..
Reunion Islands .	..	..	..	..	..	..	7,270	4·95	..	..	..	..
TOTAL .	41,846	45·97	10,500	11·58	21,651	26·25	37,217	35·18	..	..	..	..

Source: State Trading Corporation

APPENDIX 15

[*Vide* Paragraph 18.2.5.2]

Classification of the Lime Stone sources according to certain range of distances from the Factories

	ZONES				
	North	East	West	South	Total
No. of Factories . .	8	9	11	20	48
Total No. of sources of all factories . .	14	17	20	42	93
	Range of Sources (Kms.)				
1—20 . . .	11	7	10	27	55
21—40 . . .	3	5	4	10	22
41—50 . . .	..	2	1	2	5
51—60 . . .	..	..	1	..	1
61—70 . . .	..	3	1	..	4
71—80 . . .	..	..	..	1	1
81—90 . . .	..	..	..	..	..
91—100 . . .	..	..	..	1	1
101—110 . . .	..	..	1	..	1
111—120 . . .	..	..	..	..	..
121—130 . . .	..	..	1	1	2
131—140 . . .	..	..	..	..	..
141—150 . . .	..	..	..	..	..
151—160 . . .	..	..	..	..	..
161—170 . . .	..	..	..	..	..
171—180 . . .	..	..	..	..	..
181—190 . . .	..	..	..	..	..
191—200 . . .	..	..	..	..	..
Above 200 . . .	..	..	1	..	1
TOTAL . .	14	17	20	42	93

NOTE.—The above does not include four units viz., J. & K. unit which has not replied, Sindri which uses sludge, and the two grinding units of Shree Digvijay Cement Company.

APPENDIX 16

[*Vide* Paragraph 21.1.2]

Immediate possibility of use of Fly ash available in thermal power station by existing cement units

Zone	Name of the power station	Output of fly ash (tonnes)		Qty. of clinker to be admixed (tonnes/ annum)	Annual production of portland pozzolana (tonnes)	Existing cement units who may be interested	Approx. Rly. distance (Kms.)
		Daily	Annual				
1	2	3	4	5	6	7	8
I. North	1. Delhi 'C'	100	43,000	1,72,000	2,15,000	(1) Dalmia Dadri, Charkhi Dadri	140
	2. Faridabad	30				(2) ACC, Bhupendra	250
						(3) ACC, Banmore	300
						(4) Jaipur Udyog, Sawaimadhopur	360
						(5) ACC, Lakheri.	400
						(6) Udaipur Cement, Udaipur	1090
	3. Kanpur (Panki)	150	50,000	2,00,000	2,50,000	(i) Acc, Banmore	350
						(ii) Birla Jute, Satna	380
						(iii) ACC, Kymore	470
						(iv) U.P. Govt. Cement, Churk	330
						(v) U.P. Govt. Cement, Dalla	340

APPENDIX 16—*Contd.*

1	2	3	4	5	6	7	8
II. East	1. Bandel (West Bengal)	400	130,000	5,20,000	6,50,000	(1) Orissa Cement, Rajgangpur	440
						(2) ACC, Sindri	230
						(3) ACC, Khalari	460
III. West	1. Paras (Maharashtra)	200	140,000	5,60,000	7,00,000	(1) ACC, Chanda	300-400
	2. Bhusawal	225				(2) ACC, Mancherial	500-600
						(3) Kesoram Cement, Peddapalli	550-650
IV. South	1. Nellore (Andhra Pradesh)	100	33,000	1,32,000	1,65,000	(1) Andhra Cement, Vijayawada	250
						(2) ACC, Kistna	250
						(3) KCP, Macherla	330
	2. Basin Bridge (Tamil Nadu)	40	13,000	52,000	65,000	(1) Dalmia Cement (Bharat)	300
						(2) India Cements, Sankaridurg	350
	TOTAL	1245	4,09,000	16,36,000	20,45,000		

Source : Task Force Report on Cement Industry.

APPENDIX 17

[*Vide* Paragraph 21.2.5]

Recommendations of the Task Force for the promotion of fly ash Cement as an alternative building material

1. In identifying the existing cement factories for exploring the possibility of utilizing fly ash from various power stations, mere geographical nearness need not be the criterion. Existing cement factories which are willing to move clinker from their location should also be permitted to set up grinding facilities near the source of the ash if found economically feasible. New enterpreneurs may also be encouraged to set up similar facilities near thermal stations.

2. Concerted efforts should be made to use fly ash in lime mortar and cement lime morters for construction under various Government departments like CPWD, State Electricity Boards, CWPC etc., as there appears to be no obstacle from technical point of view, there already exists suitable ISI Standards and building codes to cover these mortars.

3. In order to give a fillip to the production and use of portland pozzolana cement, a reasonable rebate on excise duty may be considered.

4. It is necessary to encourage split locations by setting up grinding plants near fly ash production centres i.e. thermal power stations keeping in view the overall economics and difficulty in transport of fly ash.

5. Establishment of lightweight aggregate units and ready-mixed concrete plants utilising fly ash from various thermal power stations should be explored by the Cement Corporation of India. The Cement Research Institute of India should be closely associated in this work.

6. Such cement factories as were previously utilising fly ash and have now discontinued this practice may be encouraged to switch back to use of fly ash.

Source : Task Force Report on Cement Industry.

APPENDIX

(*Vide* Paragraph

Factory-wise/zone-wise despatches and freight

Quantity : In tonnes
Freight & average freight : In Rupees

Sl. No.	Factories	North			East			West
		Quantity	Freight	Average Freight	Quantity	Freight	Average Freight	Quantity
1	2	3	4	5	6	7	8	9
North								
1	Bhupendra	2,51,023	45,23,522	18.02	..	..	..	509
2	Dalmia Dadri	1,23,744	21,39,830	17.29	..	..	..	..
3	Lakheri .	2,36,311	69,43,356	29.38	..	..	..	..
4	Swaimadhopur	3,86,154	1,49,90,068	39.11	..	..	..	4,265
5	Chittorgarh	1,70,530	60,20,400	35.30	..	..	..	13,654
6	Udaipur .	89,544	26,77,278	29.89	..	..	..	1,497
7	Churk .	1,84,438	56,21,979	30.48	..	..	..	..
8	Dalla .	90,229	32,11,881	35.59	135	4,885	36.18	..
	TOTAL .	15,31,973	4,61,28,314	23.27	135	4,885	36.18	19,925
East								
1	Sindri .	..	..	..	1,29,584	31,41,690	24.24	..
2	Chaibasa .	..	..	..	3,92,830	1,35,85,858	34.58	2,001
3	Khalari .	48	1,931	40.48	77,978	17,36,417	22.27	..
4	Rohtas .	33,606	9,42,144	22.14	1,30,333	43,60,516	33.46	..
5	Ashoka .	20,832	8,78,836	42.19	96,184	31,16,441	32.40	..
6	Banjari .	42,719	17,04,053	39.88	1,40,090	47,09,864	33.62	..
7	Rajgangpur	6,021	4,46,450	74.14	2,85,498	1,08,07,875	37.86	..
8	Bargarh .	3,990	3,45,649	86.62	2,45,893	1,12,40,055	45.71	4,823
9	Cherrapunji.	..	..	..	54,699	4,94,148	9.03	..
10	Japla .	..	..	..	1,91,265	57,90,874	30.27	..
	TOTAL .	1,07,226	43,19,063	38.45	17,44,356	5,89,83,738	36.23	6,824

18

30.1.8.2)

incurred during January-September 1973

Quantity : In tonnes
Freight & average
freight: In Rupees

West		South			Total		
Freight	Average Freight	Quantity	Freight	Average Freight	Quantity	Freight	Average Freight
10	11	12	13	14	15	16	17
40,628	79.81	..	..	..	2,51,532	45,64,150	18.15
..	..	..	..	..	1,23,744	21,39,830	17.29
..	..	..	..	..	2,36,311	69,43,356	29.38
2,13,057	49.95	..	..	..	3,90,419	1,52,03,125	29.38
3,18,842	23.35	..	..	..	1,84,184	63,39,242	34.41
32,186	21.50	..	..	..	91,041	27,09,464	29.76
..	..	..	..	..	1,84,438	56,21,979	30.48
..	..	..	..	..	90,364	32,16,766	35.60
6,04,713	30.34	..	..	..	15,52,033	4,67,37,912	30.11
..	..	..	..	..	1,29,584	31,41,690	24.24
64,116	32.04	..	..	..	3,94,831	1,36,49,974	34.57
..	..	..	..	..	78,026	17,38,348	22.27
..	..	..	..	..	1,63,949	53,02,660	32.34
..	..	..	..	..	1,17,016	39,95,277	34.14
..	..	..	..	..	1,82,809	64,13,917	35.08
..	..	..	..	..	2,91,519	1,12,54,325	38.60
1,20,138	24.90	..	..	..	2,54,706	1,17,05,842	45.40
..	..	..	..	..	54,699	4,94,148	9.03
..	..	..	..	..	1,91,265	57,90,874	30.27
1,84,254	27.00	..	..	..	18,58,406	6,34,87,055	34.16

APPENDIX

1	2	3	4	5	6	7	8	9
West								
1	Banmore .	10,455	1,52,958	14.63	..	..	..	28,392
2	Jamul .	60,270	43,86,404	72.77	1,51,796	89,94,960	59.26	2,15,507
3	Kymore .	3,81,609	1,75,91,573	47.00	12,254	6,18,248	50.45	145,777
4	Dwarka .	7,482	4,31,180	57.63	..	..	..	1,67,658
5	Sevlia .	..	..	..	..	..	..	1,35,313
6	Porbandar	2,999	2,18,242	72.77	..	..	..	1,30,654
7	Chanda .	..	..	..	..	..	..	1,94,255
8	Satna .	3,36,235	1,31,53,600	39.10	10,744	4,81,793	44.84	62,998
9	Mandhar .	32,129	21,55,863	67.10	24,444	14,25,932	58.33	70,748
10	Ranavav .	13,160	8,46,835	64.35	..	..	..	2,63,527
11	Sikka .	18,421	10,88,928	59.11	..	..	..	2,30,526
12	Sewree .	..	..	..	..	..	..	1,57,160
13	Ahmedabad	..	..	..	..	..	..	37,548
	TOTAL .	8,62,760	4,00,25,583	46.40	1,99,238	1,15,20,933	57.82	18,40,063
South								
1	Vijayawada	..	..	..	19,419	8,20,345	42.24	1,462
2	Macherla .	..	..	..	1,060	45,555	42.97	5,221
3	Kistna .	..	..	..	469	11,432	24.30	..
4	Mancharial	35,676	25,66,759	71.94	..	..	..	48,018
5	Buggina-palli	911	84,624	92.89	263	17,069	64.90	78,956
6	Kesoram .	24,164	19,60,789	81.14	384	19,985	52.04	95,112
7	Kottayam .	..	..	..	..	..	..	..
8	Karur .	3,295	3,61,169	109.60	8,335	7,95,636	94.45	1,751
9	Dalmia-puram	..	..	..	5,660	5,34,422	94.42	6,727
10	Taleyuthu	4,600	5,37,880	116.93	6,597	7,72,807	117.14	26,169
11	Sankaridurg	23,654	26,09,035	110.30	21,413	20,72,277	96.77	..
12	Maddukarai	13,098	15,13,037	115.50	..	..	..	3,829
13	Tulukapatti	..	..	..	..	..	..	1,025

18—*Contd.*

10	11	12	13	14	15	16	17
3,88,170	13.67	..	..	..	38,847	5,41,128	13.92
66,49,069	30.85	45,869	16,81,985	36.69	4,73,442	2,17,12,418	45.86
40,11,179	27.51	..	..	..	5,39,640	2,22,21,000	41.17
64,96,894	38.75	..	..	..	1,75,140	69,28,074	39.55
18,50,996	13.68	..	..	..	1,35,313	18,50,996	13.68
34,22,463	26.19	..	..	..	1,33,653	36,40,705	27.23
70,18,069	36.13	..	..	..	1,94,255	70,18,069	36.13
13,80,999	21.92	..	..	..	4,09,977	1,50,16,392	36.62
14,46,950	20.45	..	..	..	1,27,321	50,28,745	39.50
1,01,10,004	38.36	..	..	..	2,76,687	1,09,56,839	39.60
65,95,777	28.61	..	..	..	2,48,947	76,84,705	30.86
92,72,383	58.99	..	..	..	1,57,160	92,72,383	58.99
10,28,527	27.39	..	..	..	37,548	10,28,527	27.39
5,95,71,480	32.43	45,869	16,81,985	36.69	29,47,930	11,28,99 981	38.30
57,117	39.06	1,09,636	22,40,424	20.43	1,30,517	31,17,886	23.88
2,39,370	55.42	1,18,238	38,46 320	32.53	1,24,519	41,81,245	33.57
..	..	1,24,256	26,01,320	20.94	1,24,725	26,12,752	20.94
12,79,316	47.46	5,53,501	14,47,951	26.15	6,37,195	62,94,026	9.87
33,34,593	49.19	1,05,400	26,86,052	25.48	1,85,530	66,72,338	35.96
40,77,469	42.87	57,621	11,36,373	19.72	1,77,281	71,94,616	40.58
..	..	24,484	99,124	4.04	24,484	99,124	4.04
1,34,511	76.81	87,119	21,20,570	24.34	1,00,500	34,11,886	33.94
5,23,329	77.79	2,65,416	61,81,447	23.29	2,77,803	72,39,198	26.05
221,55,670	82.76	3,24,773	92,55,576	28.50	3,62,139	1,27,31,933	35.15
..	..	3,04,036	61,50,178	20.23	3,49,103	1,08,31,490	31.02
1,30,086	75.76	1,39,341	23,72,872	17.02	1,56,268	41,75,995	26.70
83,702	87.51	78,981	17,82,604	22.56	80,006	18,72,306	23.40

APPENDIX

1	2	3	4	5	6	7	8	9
14	Alangulam	2,016	2,32,037	115.10	6,499	7,28,180	112.04	2,861
15	Bhadravati	..	..	..	..	..	..	..
16	Bagalkot	..	..	..	..	..	..	73,853
17	Shahabad	16,784	15,91,026	97.79	..	..	..	2,28,793
18	Ammasandra.	7,377	7,80,965	105.86	4,062	3,48,556	85.80	53,904
19	Wadi	16,839	15,73,669	93.45	..	..	..	1,80,361
20	Kurkunta	9,481	8,63,707	91.09	..	..	..	42,549
	TOTAL	1,57,895	1,46,74,697	92.93	74,161	61,66,264	83.14	8,50,591
	GRAND TOTAL	25,30,354	10,51,47,657	39.53	20,17,890	7,66,75,820	38.31	27,17,493

Source : Cement Controller.

NOTE.—Cement Controller has informed us that these are tentative figures.

सत्यमेव जयते

18—*Contd.*

10	11	12	13	14	15	16	17
2,40,809	84.16	1,72,342	46,09,272	26.74	1,83,718	58,10,298	31.62
..	..	57,925	11,36,186	19.62	57,925	11,36,186	19.60
25,19,900	35.47	1,08,098	23,88,814	22.10	1,81,951	50,08,714	27.52
83,84,024	36.64	1,13,980	25,35,456	22.24	3,59,557	1,25,10,506	34.79
27,26,919	50.50	2,49,190	49,78,242	19.98	3,14,623	88,34,682	28.08
71,39,324	39.48	86,314	23,57,877	27.32	2,83,514	1,10,70,870	39.04
15,48,798	38.75	21,468	5,67,434	26.43	73,498	30,79,939	41.90
3,55,50,937	42.96	31,02,119	6,04,94,092	19.50	41,84,856	11,78,85,990	28.16
9,70,11,384	35.69	31,47,988	6,21,76 077	19.75	1,05,43,225	34,10,10,938	32.34

Source : Cement Controller.

NOTE.—Cement Controller has informed us that these are tentative figures.

सत्यमेव जयते

APPENDIX 19

[*Vide* Paragraph 35.1]

Statement showing the break-up of retail sale price of cement as on 1-12-1972

(In Rupees per tonne)

Sl. No.	Region/State	F.O.R. Price	Central Sales Tax		Incidentals	Sales Tax		*Octroi Town Duty	Grand total	Remarks
			Rate	Amount		Rate	Amount			
1	2	3	4	5	6	7	8	9	10	11
North										
1	Uttar Pradesh .	212·77	3%	6·38	14·60	7%+½%	15·96	..	249·71	*Octroi duty varies from place to place.
2	Rajasthan . .	212·77	3%	6·38	15·00	12%	25·53	..	259·68	
3	Punjab . .	212·77	3%	6·38	14·40	6%+2%	17·02	..	250·57	

4	Haryana	212.77	3%	6.38	14.40	7%+2%	19.15	...	252.15	CST is levied on cement sales when inter state movement is involved.
5	Chandigarh	212·77	3%	6·38	14·40	6%+2%	17·02	..	252·70	
6	Delhi	212·77	3%	6·38	14·40	5%+2%	14·89	12·00	248·44	
East										
7	Bihar	212·77	3%	6·38	12·87	7·5%	15·96	..	247·98	
8	West Bengal	212·77	3%	6·38	9·21	6%	12·77	..	241·13	
9	Orissa	212·77	3%	6·38	11·25	5%	10·64	..	241·04	
10	Assam	212·77	10%	of f.o.r. Price inclusive of C.S.T.						
11	Nagaland	212·77								
12	Manipur	212·77	10%	f.o.r. Price inclusive of C.S.T. plus out agency charges.						
13	Tripura	212·77								

APPENDIX 19—*Contd.*

1	2	3	4	5	6	7	8	9	10	11
West										
14	Gujarat . .	212·77	3%	6·38	16·88	8%+2%	21·28	..	257·31	
15	Maharashtra .	212·77	3%	6·38	14·00	6%	12·77	..	245·92	
16	Madhya Pradesh .	212·77	3%	6·38	14·00	7·5%	15·96	..	249·11	
South										
17	Andhra Pradesh.	212·77	3%	6·38	12·50	5%+ 0·25%	11·17	..	242·82	
18	Tamil Nadu .	212·77	3%	6·38	14·00	8%	17·02	...	250·17	
19	Kerala . .	212·77	3%	6·38	14·50	7%	14·89	..	248·54	
20	Mysore . .	212·77	3%	6·38	13·50	8%	17·02	3·60	249·67	
21	Pondicherry .	212·77	3%	6·38	13·25	...	..	..	@232·40	@Local taxes are not included.

Source : Cement Controller's Publication (1972) Page 148.

APPENDIX 20

(*Vide* Paragraph 37.1)

Statement showing the names of the costed units together with the year of establishment, latest accounting year costed and the names of the Cost Officers who examined the cost

Sl. No.	Name of unit	Year of establishment	Latest accounting year costed	Name of the Cost Officer & designation
1	2	3	4	5
1	ACC—Chaibasa . . .	1947	31-7-72	Shri A. K. Banerji, Cost Accounts Officer, Tariff Commission.
2	ACC—Sevalia	1951	31-7-72	Do.
3	ACC—Chanda . . .	1970	31-7-72	Do.
4	ACC—Madukkarai . . .	1934	31-7-72	Do.
5	Shree Digvijay . . .	1949	31-12-71	Shri K.P. Sarma, Cost Accounts Officer, Tariff Commission.
6	The Travancore Cements .	1949	31-12-71	Do.
7	Mysore Iron & Steel . .	1938	31-3-72	Do.
8	India Cements—Sankridurg unit	1963	31-3-72	Do.
9	Chettinad Cement . . .	1968	31-3-72	Do.
10	Dalmia Dadri. . . .	1939	31-12-71	Shri J. M. Ayyar, Cost Accounts Officer, Ministy of Finance.
11	ACC—Kymore. . . .	1923	31-7-72	Do.
12	ACC—Shahabad . . .	1925	31-7-72	Do.
13	Udaipur Cement Works . .	1970	30-6-72	Shri K. V. Varadrajan, Cost Accounts Officer, Ministry of Finance.
14	U.P. State Cement Corpn, Dala unit	1970	31-12-72	Do.
15	Rohtas Industries . . .	1938	31-3-72	Shri S. N. Misra, Asst. Cost Accounts Officer, Tariff Commission.
16	Sone Valley	1922	31-12-70*	Do.
17	Cement Corpn., Mandhar. .	1970	31-3-72	Do.
18	Jaipur Udyog . . .	1953	31-3-72	Do.

*Cost adjusted upto 31-3-72.

APPENDIX 20—*Contd.*

1	2	3	4	5
19	Kesoram Cements . . .	1969	4/71 to 3/72	Shri D. C. Ghosh Asstt. Cost Accounts Officer, Tariff Commission
20	Panyam Cements . . .	1959	9/71 to 8/72	Do.
21	Andhra Cements . . .	1940	4/71 to 3/72	Do.
22	Orissa Cements . . .	1951	1/72 to 12/72	Do.
23	Assam Cements . . .	1966	30-6-72	Shri R. K. Seth, Asstt. Cost Accounts Officer, Ministry of Finance.



Statement A.

APPENDIX 21

(*Vide* Paragraph 38.1)

The total cost of production of Cement including packing material and selling expenses for the year 1971/1971-72

(Rs. per tonne)

Costed Units	Year-ending	Cpst of Cement Ground ST-A-3	Packing Expenses ST-A-4	Cost of Naked Cement (3+4)	Packing material ST-A-4	Selling expenses ST-A-5	Total (5 to 7)
1	2	3	4	5	6	7	8
1	31-3-1972	86.69	4.38	91.07	29.74	4.00	124.81
2	31-8-1972	79.01	1.43	80.44	31.80	4.58	116.82
3	31-3-1972	95.15	2.03	97.18	29.95	2.10	129.23
5	30-6-1972	123.29	2.98	126.27	32.53	3.06	161.86
4	31-3-1972	103.21	6.71	109.92	29.45	2.46	141.83
6	31-12-1970	120.32	4.59	124.91	25.15	1.22	151.28
"	31-12-1971	88.30	2.41	90.71	31.00	2.31	124.02
	Do.	94.79	3.49	98.28	32.32	3.63	134.23
9	Do.	111.85	7.76	119.61	30.06	1.61	151.28
10	31-3-1972	100·77	3·02	103·79	30·16	3·49	137·44
11	Do.	97·44	1·93	99·37	28·75	1·41	129·53
12	31-12-1972	75·30	4·14	79·44	31·67	6·44	117·55
13	31-3-1972	102·93	3·81	106·74	30·25	0·70	137·69
14	30-6-1972	97·59	8·80	106·39	31·01	1·24	138·64
15	31-3-1972	92·61	1·95	94·56	31·66	3·01	129·23
16	Do.	104·67	3·39	108·06	29·31	3·38	140·75
17	31-12-1972	116·86	6·87	123·73	32·77	0·80	157·30
18	31-7-1972	86·52	6·80	93·32	31·39	3·62	128·33
19	Do.	106·84	5·24	112·08	20·85	3·62	136·55
20	Do.	73·02	5·42	78·44	25·24	3·62	107·30
21	Do.	121·32	5·28	126·60	33·96	3·62	164·18
22	Do.	65·86	3·85	69·71	25·49	3·62	98·82
23	Do.	111·89	4·92	116·81	28·68	3·62	149·11
Weighted Average		93·02	4·22	97·24	29·72	3·03	129·99

APPENDIX

Statement

Cost of Limestone for the year

(Rs. per tonne)

Costed Units	Year ending	Wages	Salaries	Power & Fuel	Consumable Stores	Repair & Maintenance Stores)
1	2	3	4	5	6	7
1	31-3-72	0.39	0.31	0.23	1.96	..
2	31-8-72	0.47	0.13	0.07	1.06	0.11
3	31-3-72	2.15	0.36	0.53	2.59	..
4	30-6-72	5.80	0.52	1.18	2.30	..
5	31-3-72	Purchased from M/s. Parnava Properties Ltd.				
6	31-12-70	11.28	1.04	1.14	0.59	0.80
7	31-12-71	0.84	0.01	0.03	0.20	0.31
8	31-12-71	6.62	..	..	0.03	..
9	31-12-71	5.86	..	0.17	2.63	..
10	31-3-72	6.38	0.20	0.02	0.10	0.33
11	31-3-72	7.26	..	0.36	0.46	..
12	31-12-72	8.98	0.54	0.32	0.68	0.36
13	31-3-72	5.90	0.31	0.58	1.46	1.21
14	30-6-72	5.46	0.15	0.42	1.01	2.99
15	31-3-72	..	..	..	..	..
16	31-3-72	1.13	0.17	0.38	1.15	0.87
17	31-12-72	1.99	0.19	0.16	1.89	1.15
18	31-7-72	4.22	0.34	0.43	3.35	..
19	31-7-72	7.77	0.27	0.31	2.79	..
20	31-7-72	1.48	0.30	0.38	0.95	..
21	31-7-72	1.53	0.26	..	3.26	..
22	31-7-72	1.27	0.36	0.08	1.33	..
23	31-7-72	7.06	0.42	0.55	2.05	..
Weighted Average						

21—*Contd.*

No. A-1.

ended 1971/1971-72

(Rs./per tonne)

Depreciation	Royalty	Overheads	Gratuity	Minimum bonus	Total (3 to 12)	Transport charges	Total (13+14)
8	9	10	11	12	13	14	15
0.92	0.57	0.11	1.27	..	5.76	2.80	8.56
1.15	1.04	0.19	..	0.04	4.26	1.14	5.40
0.78	0.95	0.56	..	0.09	8.01	13.09	21.10
1.94	1.29	..	..	..	13.03	..	13.03
Purchased from M/s Parnava Properties Ltd.					17.58	7.20	24.78
0.21	0.76	0.51	0.12	..	16.45	2.55	19.00
0.09	1.21	0.05	0.01	0.15	2.90	9.96	12.86
0.01	0.14	1.17	0.29	..	8.26	5.67	13.93
0.01	1.25	3.58	0.16	0.25	13.91	12.86	26.77
0.39	0.75	0.54	..	..	8.71	2.52	11.23
0.28	1.25	2.07	..	0.19	11.87	10.07	21.94
0.23	1.34	0.37	0.29	0.19	13.30	1.58	14.88
0.51	0.75	0.20	0.02	0.45	11.39	8.04	19.43
2.46	0.88	2.62	..	..	15.99	2.40	18.39
..	0.74	10.72	..	..	11.46	3.75	15.21
1.19	0.75	1.24	..	..	6.88	4.19	11.07
4.20	0.75	6.04	0.02	..	16.39	2.83	19.22
1.14	1.21	0.69	..	0.32	11.70	1.29	12.99
0.52	0.76	0.80	..	0.57	13.79	3.83	17.62
1.02	1.15	0.71	..	0.20	6.19	1.99	8.18
2.79	0.81	2.40	..	0.11	11.16	4.79	15.95
0.55	1.25	0.56	..	0.12	5.52	0.70	6.22
0.89	1.69	0.73	..	0.59	13.98	3.74	17.72
					9.95	4.32	14.27

APPENDIX

Statement

Cost of Production of Clinker for

(Rs./Tonne)

Costed Units	Year Ending	Raw Materials				Wages Salaries		Coal/ Fuel Oil
		Lime Stones	Clay	Others	Total (3 to 5)			
1	2	3	4	5	6	7	8	9
1	31-3-72 . . .	12.52	..	1.27	13.79	0.82	0.33	10.97
2	31-3-72 . . .	8.03	0.01	4.13	12.17	2.90	1.66	20.46
3	31-3-72 . . .	27.05	0.07	3.69	30.81	1.42	0.39	20.34
4	31-6-72 . . .	16.49	2.70	0.10	19.29	9.57	..	13.03
5	31-3-72 . . .	37.54	..	0.95	38.49	7.29	4.43	18.18
6	31-12-70 . . .	30.89	..	0.80	31.69	9.56	7.45	23.06
7	31-12-71 . . .	7.21	..	13.75	20.96	1.09	0.25	30.58
8	31-12-71 . . .	22.65	..	1.99	24.64	4.86		25.94
9	31-12-71 . . .	31.68	..	1.84	33.52	2.07		37.98
10	31-3-72 . . .	20.27	..	..	20.27	1.03	1.77	15.10
11	31-3-72 . . .	28.20	3.37	0.47	32.04	5.11	1.05	31.15
12	31-12-72 . . .	24.13	0.21	0.15	24.49	1.98	..	13.23
13	31-3-72 . . .	29.68	..	..	29.68	7.00	2.18	21.44
14	30-6-72 . . .	29.32	0.13	0.98	30.43	0.96	0.49	15.75
15	31-3-72 . . .	23.58	0.06	1.04	24.68	2.76	0.42	27.92
16	31-3-72 . . .	17.41	0.50	1.68	19.59	1.96		44.79
17	31-12-72 . . .	30.99	..	..	30.99	1.42	0.14	17.85
18	31-7-72 . . .	26.43	..	0.46	26.89	8.26	1.11	16.40
19	31-7-72 . . .	30.44	..	5.52	35.96	9.09	1.46	27.27
20	31-7-72 . . .	12.09	0.20	0.18	12.47	6.48	0.20	20.01
21	31-7-72 . . .	24.46	..	2.20	26.66	6.26	1.30	15.42
22	31-7-72 . . .	9.04	0.01	0.19	9.24	5.81	9.96	24.15
23	31-7-72 . . .	30.87	..	1.82	32.69	6.97	1.20	38.90
	Total W.T. Average	20.91	0.12	2.44	23.47	4.29	1.12	23.05

21—*Contd.*

No. A-2.

the year ended 1971/1971-72

(Rs./Tonnes)

Electricity	Cons. Stores	Rep. Mtce. Stores	Depre-ciation	Facty O.H.	Admn. O.H.	Gratuity	Min. Bonus	Total Conven-sion charges (7 to 17)	Total Cost (6+18)
10	11	12	13	14	15	16	17	18	19
8.22	4.58	0.24	19.74	9.21	4.38	0.06	..	58.55	72.34
8.07	0.50	4.76	10.50	3.36	0.97	0.24	0.11	53.53	65.70
6.33	3.95		7.82	11.32	2.44	..	0.25	54.26	85.07
9.00	9.43	3.83	..	17.10	4.70	..	..	66.66	85.95
9.02	6.85	1.33	3.16	1.59	..	0.26	0.49	52.60	91.09
12.70	2.94	7.00	2.18	1.14	..	1.17	..	67.20	98.89
5.98	4.86	1.90	4.14	5.36	3.11	0.01	0.04	57.32	78.28
7.48	5.86		0.91	9.22	..	0.18	0.23	54.68	79.32
7.51	3.69		0.76	13.68	4.31	0.05	0.14	70.19	103.71
10.37	5.08	0.52	20.13	7.57	..	..	..	61.57	81.84
4.96	3.88	8.76	1.27	3.16	5.18	..	0.47	64.99	97.03
7.06	1.31	5.75	0.69	3.84	5.29	0.32	0.07	39.54	64.03
9.83	5.03	3.57	3.23	6.53	..	0.12	0.68	59.61	89.29
7.55	3.94		21.72	4.90	2.80	..	..	58.11	88.54
3.65	0.67	6.28	15.39	2.25	2.78	0.12	0.20	62.44	87.12
4.50	7.28		9.98	5.34	3.34	..	..	77.19	96.78
11.43	3.46	3.39	27.92	5.50	..	0.02	..	71.13	102.12
10.01	2.36	3.80	0.25	1.74	1.14	0.20	0.63	45.90	72.79
7.78	3.15	6.17	0.38	2.28	1.19	0.46	0.80	60.03	95.99
6.96	5.24	..	0.78	1.41	1.02	0.28	0.97	44.35	56.82
9.73	1.21	5.02	0.28	5.26	1.34	0.04	0.55	46.41	73.07
4.87	6.06		0.24	0.81	0.96	0.19	0.53	44.58	53.82
6.30	3.28	5.22	0.94	1.66	1.05	0.36	0.65	65.83	98.52
7.45	3.95	2.83	6.83	4.39	1.78	0.17	0.34	56.20	79.67

APPENDIX

Statement

Cost of production of cement (ground) for

(Rs. per tonne)

Costed Units	Year ending	Raw Materials				Wages	Salaries
		Clinker	Gypsum	Others	Total (3 to 5)		
1	2	3	4	5	6	7	8
1	31-3-72	70.33	2.80	..	73.13	0.17	0.05
2	31-8-72	62.66	3.55	..	66.21	0.33	0.17
3	31-3-72	81.14	3.69	..	84.83	0.19	..
4	30-6-72	84.40	2.07	..	86.47	0.75	..
5	31-3-72	82.42	4.67	2.20	89.29	2.11	1.27
6	31-12-70	92.46	5.49	..	97.95	3.99	1.69
7	31-12-71	73.45	2.34	1.77	77.56	0.27	0.11
8	31-12-71	74.51	2.44	..	76.95	0.89	
9	31-12-71	100.30	2.56	..	102.86	1.31	
10	31-3-72	76.61	6.07	..	82.68	0.13	0.39
11	31-3-72	75.66	3.42	3.18	82.26	3.87	0.78
12	31-12-72	60.97	5.07	..	66.04	0.50	
13	31-3-72	83.44	3.05	0.41	86.90	1.14	0.21
14	30-6-72	84.38	2.20	..	86.58	0.17	0.08
15	31-3-72	84.04	2.03	..	86.07	0.14	0.01
16	31-3-72	93.63	1.61	..	95.24	0.40	..
17	31-12 72	97.33	4.04	..	101.37	0.40	0.01
18	31-7-72	44.49	4.57	10.60	59.66	3.02	0.62
19		91.79	2.51	..	94.30	2.12	0.39
20		53.08	4.93	..	58.01	1.61	0.35
21		71.24	2.53	..	73.77	1.35	0.35
22		50.43	5.79	..	56.22	1.37	0.24
23		91.89	3.65	0.01	95.55	1.97	0.39
TOTAL/WEIGHTED AVERAGE)		73.25	3.62	1.00	77.87	1.09	0.28

21—*Contd.*

No. A-3

the year ended 1971/1971-72

(Rs. per tonne)

Power fuel	Consumable Stores	Repair & maintenance	Depreciation	Factory Overheads	Admn. Overheads	Gratuity	Minium Bonus	Total conversion charges (7 to 16)	Total cost of production (6+17)
9	10	11	12	13	14	15	16	17	18
3.22	1.82	0.04	3.83	3.38	1.04	0.01	..	13.56	86.69
4.09	0.21	1.88	1.94	1.13	3.01	0.03	0.01	12.80	79.01
4.44	2.05	..	0.91	2.12	0.53	..	0.08	10.32	95.15
4.63	1.65	0.46	27.57	1.38	0.38	..	..	36.82	123.29
5.84	1.82	0.37	0.52	0.56	1.21	0.09	0.13	13.92	103.12
8.86	1.00	4.56	0.61	1.18	..	0.48	Nil.	22.37	120.32
4.34	1.14	0.18	1.51	2.37	0.78	0.01	0.03	10.74	88.30
4.07	1.80		0.15	1.57	9.36	..	..	17.84	94.79
3.93	1.05		0.28	1.75	0.55	0.04	0.07	8.99	111.85
6.72	2.37	0.28	3.37	2.67	2.16	..	..	18.09	100.77
3.07	0. 0	3.22	1.04	0.98	1.26	..	0.36	15.18	97.44
4.31	0.53	0.61	0.89	1.23	1.07	0.10	0.02	9.26	75.30
5.81	1.05	0.29	0.26	1.53	5.62	0.02	0.10	16.03	102.93
4.39	2.35	..	..	2.49	1.53	..	..	11.01	97.59
2.77	0.02	0.58	2.40	0.31	0.29	0.01	0.01	6.54	92.61
3.67	..	1.74	2.45	0.76	0.41	..	..	9.43	104.67
4.69	0.13	0.88	7.62	1.75		0.01	..	15.49	116.86
9.45	1.59	1.59	8.43	1.05	0.71	0.11	0.29	26.86	86.52
4.90	0.60	1.09	2.20	0.51	0.44	0.10	0.19	12.54	106.84
4.58	1.27		6.18	0.43	0.25	0.08	0.26	15.01	73.02
4.41	1.06	0.81	37.82	1.18	0.43	0.01	0.13	47.55	121.32
3.11	1.69		2.60	0.26	0.20	0.04	0.13	9.64	65.86
3.58	0.68	0.80	7.75	0.43	0.45	0.10	10.19	16.34	111.89
4.75	1.08	0.67	4.38	1.28	1.46	0.04	0.12	15.15	93.02

APPENDIX

Statement

Cost of Packing Cement for the year

(Rs. per tonne)

Costed Units	Year ending	Packing materials	Wages	Salaries	Electricity	Consumable Stores	Repairs & Maint stores
1	2	3	4	5	6	7	8
1	31-3-72	29.74	0.51	0.21	0.19	0.37	0.03
2	31-8-72	31.80	0.35	0.19	0.10	0.07	0.14
3	31-3-72	29.95	0.89	0.35	..	0.13	..
4	30-6-72	32.53	2.08		0.21	0.40	..
5	31-3-72	29.45	3.52	1.14	0.45	0.61	0.50
6	31-12-70	25.15	3.22	0.18	0.26	0.50	0.28
7	31-12-71	31.00	0.62	0.20	0.16	0.33	..
8	31-12-71	32.32	1.35		0.23	0.33	..
9	31-12-71	30.06	5.17		0.22	0.11	..
10	31-3-72	30.16	0.71	0.36	0.12	..	0.60
11	31 3-72	28.75	1.25	0.18	..	0.33	..
12	31-12-72	31.67	1.24	..	0.20	0.13	0.22
13	31 3-72	30.25	2.24	0.11	0.21	0.08	0.11
14	30-6-72	31.01	1.55	0.13	0.11	0.36	..
15	31 3 72	31.66	1.02	0.01	0.05	0.37	0.35
16	31-3-72	29.31	1.75	..	..	0.44	..
17	31-12-72	32.77	1.68	0.02	0.26	..	..
18	31-7-72	31.39	3.58	0.19	0.30	0.23	0.51
19	31-7-72	20.85	3.22	0.14	0.26	0.25	0.27
20	31-7-73	25.24	3.17	0.22	0.36	0.39	
21	31-7-72	33.96	2.20	0.16	0.24	0.16	0.69
22	31-7-72	25.49	2.43	0.12	0.16	0.65	
23	31-7-72	28.68	2.47	0.18	0.29	0.20	0.41
Weighted Average		29.72	1.88	0.18	0.20	0.20	0.25

21—*Contd.*

No. A-4.

ended 1971/1971-72.

(Rs. per tonne)

Depreciation	Factory over heads	Admn. over heads	Gratuity	Minimum Bonus	Total cost enclud-ing bags (4 to 13)	Total cost includ-ing bags (3 to 13)
9	10	11	12	13	14	15
1.85	1.22	..	..	..	4.38	34.12
0.52	0.03	..	..	0.03	1.43	33.23
0.06	0.60	..	..	..	2.03	31.98
0.20	0.09	..	..	..	2.98	35.51
0.20	..	..	0.04	0.25	6.71	36.16
0.15	..	..	..	..	4.59	29.74
0.31	0.73	..	..	0.06	2.41	33.41
0.06	1.42	..	0.04	0.06	3.49	35.81
0.07	1.61	..	0.21	0.37	7.76	37.82
0.92	0.31	..	..	..	3.02	33.18
..	0.09	..	..	0.08	1.93	30.68
0.16	2.01	..	0.16	0.02	4.14	35.81
0.03	0.83	..	0.03	0.17	3.81	34.06
3.90	2.25	0.50	..	..	8.80	39.81
..	0.10	..	..	0.05	1.95	33.61
0.90	0.30	..	..	..	3.39	32.70
2.62	2.26	..	0.03	..	6.87	39.64
0.05	1.48	0.19	0.03	0.24	6.80	38.19
0.03	0.64	0.12	0.06	0.25	5.24	26.09
0.14	0.61	0.19	0.04	0.30	5.42	30.66
0.03	1.48	0.16	..	0.16	5.28	39.24
0.04	0.11	0.12	0.03	0.19	3.85	29.34
0.03	0.90	0.17	0.06	0.21	4.92	33.60
0.46	0.84	0.07	0.03	0.11	4.22	33.94

सत्यमेव जयते

APPENDIX

Statement

Selling and distribution expenses for

(Rs. per tonne)

Costed Units	Year ending	Wages	Salaries	Depreciation	Advertisement	Rly. siding charges	Road Transport (net)
1	2	3	4	5	6	7	8
1	31-3-72	0.03	0.59	0.61	0.29	0.91	..
2	31-8-72	0.84	0.52	0.44	0.46	..	0.26
3	31-3-72	0.38	..	..	0.30	0.14	..
4	30-6-72	1.54	..	..	..	..	..
5	31-3-72	..	0.10	..	..	..	..
6	31-12-70	0.67	0.05	..	..	..	..
7	31-12-71	0.58	0.22	0.04	0.27	..	0.01
8	31 12 71	0.66	..	..	..	..	..
9	31-12-71	0.59	..	..	..	..	..
10	31-3-72	0.12	0.36	..	..	..	..
11	31-3-72	0.53	..	..	0.18	..	..
12	31-12-72	0.27	..	0.06	1.56	0.67	0.34
13	31-3-72	..	..	..	0.70	..	..
14	30-6-72	..	..	..	..	..	..
15	31-3-72	0.45	0.30	..	0.46	..	..
16	31-3-72	0.75	..	0.02	..	..	..
17	31-12-72	..	0.24	..	0.23	..	..
18	31-7-72	1.56	..	0.02	0.36	..	..
19	31 7-72	1.56	..	0.02	0.36	..	..
20	31-7-72	1.56	..	0.02	0.36	..	..
21	31-7-72	1.56	..	0.02	0.36	..	..
22	31-7-72	1.56	..	0.02	0.36	..	..
23	31 7-72	1.56	..	0.02	0.36	..	..
Weighted Average		0.85	..	0.06	0.39	0.09	0.04

21—*Contd.*

No. A-5.

the year ended 1971/1971-72.

(Rs. per tonne)

Brokerage and commi ssion	Minimum Bonus	Loading charges	Godown rent	Travelling conveyance	Other over heads	Total (3 to 14)
9	10	11	12	13	14	15
0.35	..	0.61	0.06	0.19	0.36	4.00
1.00	0.03	..	..	..	1.03	4.58
..	0.01	..	..	0.43	0.84	2.10
..	..	0.30	0.67	..	0.55	3.06
..	..	0.51	..	..	1.85	2.46
..	..	0.34	..	..	0.16	1.22
0.74	0.03	0.30	..	0.02	0.10	2.31
0.69	0.01	..	..	..	2.27	3.63
..	0.04	..	..	..	0.98	1.61
0.97	..	0.50	..	..	1.54	3.49
..	..	0.30	0.03	..	0.37	1.41
1.75	0.01	0.81	0.04	0.02	0.91	6.44
..	..	..	..	..	..	0.70
0.99	..	..	..	..	0.25	1.24
0.57	0.13	..	..	..	1.10	3.01
0.46	..	0.11	0.02	..	2.02	3.38
..	0.02	..	..	..	0.31	0.80
0.75	0.07	..	..	..	0.86	3.62
0.75	0.07	..	..	..	0.86	3.62
0.75	0.07	..	..	..	0.86	3.62
0.75	0.07	..	..	..	0.86	3.62
0.75	0.07	..	..	..	0.86	3.62
0.75	0.07	..	..	..	0.86	3.62
0.60	0.04	0.15	0.01	0.02	0.78	3.03

APPENDIX

Statement

Element-wise cost of production of Cement

(Rs. per tonne)

Costed Units	1	2	3
Year ending	31-3-72	31-8-72	31-3-72
Cement Production—Tonnes	2,97,915	4,02,349	1,94,326
1. *Raw Materials*—			
(a) Bauxite	..	3.68	0.23
(b) Laterite	1.23	..	0.10
(c) Clay	..	0.01	0.07
(d) Others	..	0.26	3.20
(e) Gypsum	2.80	3.55	3.69
(f) Slag	..	..	..
TOTAL (a to f)	4.03	7.50	7.29
2. Wages and Salaries	3.05	6.24	6.23
3. *Power and Fuel*—			
(a) Coal	10.67	19.51	19.40
(b) Furnace Oil	..	..	..
(c) Electricity	11.73	11.98	11.13
4. Consumable Stores	9.43	2.26	9.11
5. Repairs & Maintenance	0.30	6.71	..
6. Depreciation	26.18	14.10	9.38
7. Royalty	0.81	1.48	1.16
8. Gratuity	0.13	0.26	..
9. Minimum Bonus	..	0.21	0.43
10. Factory Overheads	15.46	4.63	14.19
11. Administrative Overhead	5.30	3.94	2.86
12. Transport of limestone	3.98	1.62	16.00
13. Total Conversion charges (2 to 12)	87.04	72.94	89.89
14. TOTAL (1 to 12)	91.07	80.44	97.18

21—*Contd.*

No. A-6.

Ground for the year 1971/1971-72.

(Rs. per tonne)

4	5	6	7	8	9	10	11
30-6-72	31-3-72	31-12-70	31-12-71	31-12-71	31-12-71	31-3-72	31-3-72
66,700	3,14,837	1,44,026	7,76,064	1,97,003	39,546	1,64,118	94,406
..	..	..	..	..	..	..	0.03
..	0.83	0.34	..	..	0.37	..	..
2.65	..	..	..	..	..	..	2.63
0.10	0.03	0.41	2.07	1.87	1.41	..	0.34
2.07	4.67	5.49	2.34	2.44	2.56	6.07	3.42
..	2.20	..	1.77	..	..	..	3.18
4.82	7.73	6.24	6.18	4.31	4.34	6.07	9.60
20.08	29.73	43.71	3.61	16.84	15.19	15.33	17.71
12.80	16.45	21.56	28.70	23.13	14.93	14.14	24.77
1.46	..	..	0.03	1.29	21.80	..	..
13.67	16.04	22.72	10.11	11.28	11.61	16.58	6.82
14.17	12.34	5.15	6.30	7.68	7.74	7.29	4.42
4.22	3.19	12.60	2.39	..	..	1.93	10.05
30.19	6.12	3.12	5.83	1.08	1.10	23.79	2.31
1.60	2.55	1.15	1.64	0.22	1.43	1.26	1.26
..	0.64	..	0.04	0.68	0.48	..	..
..	1.30	..	0.33	0.32	0.87	..	0.99
18.26	2.58	3.02	8.31	13.89	19.74	10.98	5.10
5.00	1.39	1.76	3.70	8.90	5.66	2.16	6.24
..	9.86	3.88	13.54	8.66	14.72	4.26	10.10
121.45	102.19	118.67	84.53	93.37	115.27	97.72	89.77
126.27	109.92	124.91	90.71	98.28	119.61	103.79	99.37

APPENDIX

Statement

Element-wise cost of production of Cement

(Rs. per tonne)

Costed Units	12	13	14	15	16
Year ending	31-12-72	31-3-72	30-6-72	31-3-72	31-12-72
Cement Production—Tonnes	4,44,413	7,00,540	1,94,294	4,88,805	2,50,665
1. *Raw Materials*—					
(a) Bauxite	..	..	..	0.92	1.10
(b) Clay	0.20	..	0.17	0.06	0.48
(c) Laterite	0.12	..	..	..	0.16
(d) Others	0.02	..	0.89	0.09	0.36
(e) Gypsum	5.07	3.05	2.20	2.09	1.61
(f) Slag	..	0.41	..	..	..
TOTAL (a to f)	5.41	3.46	3.26	3.10	3.71
2. Wages & Salaries	18.83	21.15	11.36	11.79	6.02
3. *Power and Fuel*—					
(a) Coal	12.60	20.03	15.00	16.91	2.23
(b) Furnace Oil	..	..	..	10.02	41.10
(c) Electricity	11.73	16.04	12.30	6.86	8.60
4. Consumable Stores	2.96	7.91	7.91	3.49	9.24
5. Repairs & Maintenance Stores	6.86	5.46	4.29	7.75	3.07
6. Depreciation	2.06	4.04	28.12	18.99	14.81
7. Royalty	2.07	1.07	1.26	1.12	1.14
8. Gratuity	1.01	0.19	..	0.31	..
9. Minimum Bonus	0.40	1.55	..	0.39	..
10. Factory Overheads	6.99	8.74	11.34	5.26	7.61
11. Administration Overheads	6.08	5.62	8.11	2.97	4.15
12. Transport of limestone	2.44	11.48	3.44	5.60	6.38
13. Total Conversion charges (2 to 12)	74.03	103.28	103.13	91.46	104.35
14. TOTAL (1 to 12)	79.44	106.74	106.39	94.56	108.06

21—*Contd.*

No. A-6.

Ground for the year 1971/1971-72

(Rs. per tonne)

17	18	19	20	21	22	23	Weight
31-12-72	31-7-72	31-7-72	31-7-72	31-7-72	31-7-72	31-7-72	Average
3,41,000	4,54,000	2,06,400	6,01,200	26,1,700	5,00,040	3,17,280,	74,51,627
..	..	1.34	..	2.11	..	..	0.41
..	..	..	0.19	..	301	..	0.11
..	..	..	..	..	..	1.40	0·17
..	0.04	2.98	0.170	0.04	0.18	0.31	0.55
4.03	3.16	2.51	3.55	2.53	5.74	3.65	3.42
..	5.47	..	..	..	..	..	0.69
4.03	8.67	6.83	3.91	4.68	5.93	5.36	5.35
7.21	20.47	29.73	16.17	16.57	12.77	24.78	14.94
17.01	10.54	26.07	18.69	13.91	22.55	33.55	18.80
..	..	..	..	1.10	0.07	2.73	2.37
16.57	17.48	13.13	11.96	14.13	7.93	10.64	12.41
6.37	12.35	15.99	7.88	13.66	9.84	13.35	4.59
7.63							6.71
46.38	12.62	3.52	8.48	42.30	3.60	9.45	12.62
1.14	1.64	1.30	1.70	1.21	1.72	2.75	1.48
0.10	0.34	0.79	0.45	0.05	0.32	0.63	0.30
..	1.32	2.22	1.75	1.00	0.98	1.96	0.79
13.01	4.42	4.26	2.90	8.67	1.44	3.50	7.14
..	1.94	1.91	1.80	2.15	1.61	2.03	3.44
4.28	1.63	6.33	2.75	7.17	0.95	6.08	6.30
119.70	84.65	105.25	74.53	121.92	63.78	111.45	91.89
123.73	93.32	112.08	78.44	126.60	69.71	116.81	97.24

APPENDIX 22

[*Vide* PARAGRAPH 38.2.1.3]

Capacity and utilisation of capacity of the Costed Units for the year ended 1971/1971-72

Sl. No.	Nam of the Unit	Costed period year ending	Capacity during the costed year as reported by the costed units (Tonnes)	Production during costed year (Tonnes)	Capacity utilisation (%)
1	2	3	4	5	6
1	A.C.C. Ltd., Chaibasa.	31-7-72	6,35,000	4,54,000	71.5
2	Kesoram Cement Ltd.	31-3-72	4,32,000	2,97,915	68.9
3	Panyam Cement & M. I. Ltd.	31-8-72	3,88,000	4,02,349	103.7
4	A.C.C. Ltd., Sevalia	31-7-72	2,01,000	2,06,400	102.6
5	Andhra Cement Co. Ltd.	31-7-72	2,40,000	1,94,326	80.9
6	A.C.C. Ltd., Kymore	31-7-72	7,76,000	6,01,200	77.4
7	Assam Cements Ltd.	30-6-72	84,000	66,700	79.4
8	Rohtas Industries Ltd.	31-3-72	3,68,825	3,14,837	85.3

9	Digvijay Cement Co. Ltd.	31-12-70	3,14,000	1,44,026	45.3
10	A.C.C. Ltd., Chanda	31-7-72	4,00,000	2,61,700	65.4
11	Dalmia Dadri Cement	31-12-71	1,93,000	1,97,023	102.0
12	C.C.I., Mandhar	31-3-72	2,00,000	1,64,118	82.0
13	A.C.C. Ltd., Shahabad	31-7-72	5,68,000	5,00,040	88.0
14	Mysore I.S.I. Bhadravathi	31-3-72	1,00,000	94,406	94.4
15	Orissa Cements Ltd.	31-12-72	4,01,000	4,44,413	110.8
16	Jaipur Udyog Ltd.	31-3-72	8,55,000	7,00,540	81.9
17	A.C.C. Ltd., Madukkarai	31-7-72	3,82,000	3,17,280	83.0
18	Udaipur Cement Works	30-6-72	2,00,000	1,94,294	97.1
19	India Cements Ltd.	31-3-72	6,00,000	4,88,805	81.4
20	Chettinad Cement Corporation Ltd.	31-3-72	4,11,840	2,50,665	60.8
21	Shree Digvijay Cement Co. Ltd.	31-12-71	10,50,000	7,76,064	73.9
22	U.P.S. Cement Corporation, Dalla	31-12-72	4,20,000	3,41,000	81.1
23	Travancore Cements Ltd.	31-12-71	50,800	54,581@	107.4
	Weighted Average		92,70,465	74,66,662	80.5

@Includes production of White Cement also.

APPENDIX 23

[*Vide* PARAGRAPH 45.2]

Names of the units for whom Industrial Licences or c.o.b. Licences were granted by Government as on 1-9-1973

S. No.	Name of Party	Location	Capacity (Lakh Tonnes)	Date of issue of licence
1	2	3	4	5
(*a*) *Industrial Licences*				
*1	Cement Corporation of India Ltd., New Delhi	Bokajan (Assam)	2.0 (Portland)	19-12-70
2	Madras Cements Ltd.	Tulukkapatti (Tamil Nadu)	2.10 (Portland)	9-11-71
*3	U·P. State Cement Corporation Ltd., Churk	Dalla (UP)	3.68	18-1-71
*4	Tamil Nadu Indl. Development Corporation Ltd., Madras-I?	Alangulam (Tamil Nadu)	3.00	18-11-71
5	Panyam Cements & Mineral Ind. Ltd.	Cement Nagar (A.P.)	1.00	24-7-73
			11.78	

(*b*) *C. O. B. Licences*

1	J. K. Synthetics Ltd., Kanpur . . .	Nimbahera (Raj)	2.52	26-3-17
2	Durgapur Cement Works	Durgapur (West Bengal)	6.00	4-10-17
3	The Jaipur Udyog Ltd.	Beawar (Raj)	6.00	5-10-71
4	Century Cement, Bombay	Tilda (MP)	6.00	1-3-71
*5	Assam Cement Ltd., Shillong . . .	Cherrapunji (Meghalaya)	2.00	13-7-72
6	Sone Valley Portland Cement Co. Ltd., New Delhi	Japla (Bihar)	3.30	24-11-72
		TOTAL . .	25.82	

*Public Sector.

Source : Ministry of Industrial Development.

APPENDIX 24

[*Vide* Paragraph 46.1]

Names of the units for whom letters of intent were granted by Government as on 1-9-1973

S. No.	Party	Location	Capacity (lakh tonnes)	New/SE	Date of issue of letter of intent
1	2	3	4	5	6
*1	Cement Corpn. of India Ltd., New Delhi	Rajban (HP)	2.00 (Portland)	New	13-1-71
*2	Cement Corpn. of India Ltd. New Delhi	Mandhar(MP)	1.80 (slag)	SE	29-1-71
*3	J. & K. Minerals Ltd., Srinagar	Basholi (J. & K.)	2.00	New	21-4-71
4	The Palamau Cement Col. 12-Hare Street, Calcutta	Bhawanathpur (Palamau- Bihar)	2.50 (Portland)	New	17-11-71
5	Panyam Cement & Mineral Ind. Ltd. Cementnagar P.O. Dt. Kurnool (AP)	Sullurpet (A.P.)	0.45 (White)	New	17-11-71

	ient & Chem. Ltd., No. 68, II Main Road . . Pet, Bangalore-2.	Malapur, Taluk Hosdurga, Dt. Chitradurga (Mysore)	2.00 (Portland)	New	17-11-71
*7	Gujarat Ind. Investment Corpn. Ltd., Natraj Chambers, Ashram Road, Ahmedabad-9.	Jaffrabad Distt. Jaffrabad (Gujarat)	2.00 (Portland)	New	17-11-71
*8	U.P. State Cement Corpn. Ltd., Churk . .	Distt. Mirzapur (U.P.)	4.32 (Portland)	New	17-11-71
*9	U.P. State Cement Corpn. Ltd., Churk . .	Dt. Pithorgarh (U.P.)	4.32 (Portland)	New	17-11-71
10	Hindustan Sugar Mills Ltd., ...	Udaipur (Rajasthan)	3.00 (Portland)	SE	25-11-71
*11	West Bengal Ind. Dev. Corpn. Ltd., India Exchange Place, Extn. (8th Floor), Calcutta.	Jhalda Purulia Distt. (West Bengal)	2.00 (Portland)	New	17-12-71
*12	Cement Corpn. of India Ltd. New Delhi. .	Baruwala, Distt. Dehradun (U.P.)	2.00 (Portland)	New	19-2-72
13	Panyam Cement & Mineral Ind. Ltd. . .	Tonnagallu Taluk, Bellary Distt. (Mysore)	1.00 (Portland)	Split Location	10-5-72 (Capacity not to be taken as addl.)

APPENDIX 24—*Contd.*

1	2	3	4	5	6
14	B.N. Bhaskar, Managing Director, The Ishwar Indi. Ltd., New Delhi.	Bundi Distt. Bundi (Raj.)	2.00 (Portland)	New	6-7-72
15	R. P. Sinha Cement Ltd. P.O. Tilothu, Dt. Shahabad (Bihar).	Vill. Rampur P.S. Rohtas, Dt. Shahabad, (Bihar).	2.00 (Portland)	New	6-7-72
*16	Himachal Pradesh Mineral & Ind. Dev. Corpon. Ltd., Kishore Bhavan, The Mall, Simla.	Samloti, Distt. Kangra (H.P.).	2.00	New	12-10-72
*17	J. & K. Mineral Ltd., The Bund, Srinagar	Vill. Khrew, Teh. Pulwana, Dt. Anantanag (J. & K.).	1.04 (portland)	New	16-12-72
*18	Mysore Iron & Steel Ltd., Bhadravati Post, Distt. Shimoga (Mysore).	Bhadravati, Dt. Shimoga (Mysore).	0.70 (Slag)	SE	29-6-73
*19	Cement Corpn. of India Ltd., Herald House, 5-A, Bahadur Shah Zafar Marg, New Delhi-1.	Adilabad, Dt. Adilabad (A.P.)	4.00 (Portland)	New	18-7-73
*20	Cement Corpn. of India Ltd., Herald House, 5-A, Bahadur Shah Zafar Marg, New Delhi-1.	Tandur, Dt. Hyderabad (A.P.).	4.00 (Portland)	New	18-7-73

*21	Cement Corpn. of India Ltd., Herald Ho[illegible] Bahadur Shah Zafar Marg, New Delhi				
22	Rohtas Ind., Ltd., Times House, 4th Floor, 7, Bahadur Shah Zaffar Marg, New Delhi-1.	Dalmianagar (Bihar)	2.22 (Slag)	[illegible]	19-7-7
23	Dalmia Cement (B) Ltd., 4, Scindia House, New-Delhi-I	Dalmiapuram, Distt. Tiruchirapalli, (T. Nadu)	0.66 (Shaft kiln Portland)	SE	20-7-7
24	Ashoka Cement Ltd., Times House, 4th Floor, 7, Bahadur Shah Zafar Marg, New Delhi.	Chandrapura, Dt. Hazaribagh (Bihar).	2.36 (Slag) Split location	SE	[illegible]1-7-73
25	Ashoka Cement Ltd., Dalmianagar. . .	Asansol Dt. Burdwan (West Bengal)	2.60 (Slag) Split location	SE	[illegible]8-73
26	Cements & Chemicals India Ltd., Madras .	Chanaka (Mahrashtra)	3.30 (Portland)	New	14-8-73

1	2	3	4	5	6
27	The Delhi Cloth & Gnl. Mills Co. Ltd., New Delhi-5	Teh. Banas, Dt. Sirohi (Rajasthan).	8.00 (Portland)	New	16-8-73
*28	Cement Corporation of India Ltd., New Delhi	Vill. Bisalwas Teh, Jawad, Dt. Mandsaur (MP) (Neemuch).	4.00 (Portland)	New	17-8-73
29	Century Cement, Bombay	Maihar, Dt. Satna (MP).	7.50 (Portland)	New	17-8-73
30	A.C.C. Ltd., Bombay	Near Sendra Rly. Station, Teh. Jaitaran, Dist. Pali (Raj.)	6.00 (Portland)	New	17-8-73
31	A.C.C. Ltd., Bombay	Bhupendra, Teh. Kalka, Dist. Ambala (Haryana).	3.00 (Portland)	SE	17-8-73
32	A.C.C Ltd., Bombay	Wadi, Teh. Chitapur Dist. Gulbarga (Mysore)			17-8-73

33	J.K Synthetics Ltd. Kamla Tower, Kanpur	Ludhiana (Punjab)	1.26	Split Location (capacity not to be added).	17-8-73
34	The Ganges Mfg. Co. Ltd., 7, Council House Street, Calcutta-1.	Village Kiratpur, Teh. Itarsi, Distt. Hoshangabad (MP).	4.00 (Portland)	New	17-8-73
		TOTAL .	95·37		

*Public Sector Projects.

Source : Ministry of Industrial Development.

GIPN—S1—4 T.C- Bom./74—24-12-74—550